

MILITARY ILLUSTRATED

PAST & PRESENT

No.50 JULY 1992

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FALLSCHIRMJÄGER — BATTLE
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NEEDLE RIFLES
BMSS ANNUALS REPORT

ROYAL SCOTS — BATTLE
OF WATERLOO 1815

BRITISH ARMY MANPACK
RADIOS OF WWII
THE FREIKORPS



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July 1992



Our cover illustrations show, on the left, a reconstruction of a Fallschirmjäger officer wearing elasticated leather jump gloves. (See article page 10.) On the right is a reconstructed flank company private, Royal Scots, 1815. (See article page 24.)

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IT IS A tribute to you, the readers and contributors, that 'MI' has reached its 50th issue, battle-hardened but buoyant. One could almost paraphrase Winston Churchill's Battle of Britain speech, but I'll simply say: from all of us to all of you, many thanks, and keep it up.

The year 1992 is significant militarily in a number of respects. This time ten years ago we were celebrating victory in the Falkland Islands; 50 years ago American forces were arriving in England in growing numbers while our troops in the Western Desert were preparing to repel Rommel from the Alamein line and the German Sixth Army was heading for disaster at Stalingrad — both subjects which will feature in forthcoming issues.

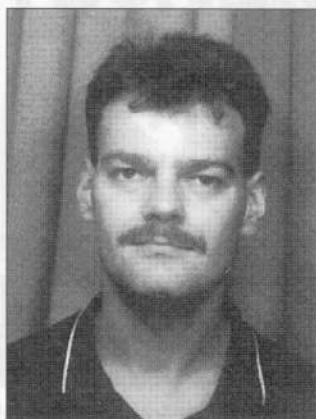
Fifty years ago, it was also the 300th anniversary of King Charles I raising his standard at Nottingham, heralding the beginning of the English Civil Wars. But England had a different war to think about, and victory was still by no means certain, so what celebrations there were, were very low key. This year, on the 350th anniversary, things are rather different, so much so that it is difficult to keep track of everything that is going on.

The Sealed Knot are staging five days of 'living history' at Nottingham from 23 to 27 August, culminating in a re-enactment of the raising of the King's Standard which should be well worth watching. Then, on 24/25 October, the society is putting on a re-enactment of the battle of Edgehill. The actual battlefield is the property of Royal Ordnance, and this is the first time they have opened it up for what promises to be the most spectacular muster ever.

EDITOR'S NOTES



Lt-Col A.F. Austen



Neil Leonard

The National Army Museum in Chelsea also recognises the importance of this particular anniversary, and have organised a special exhibition — 'By The Sword Decided' — to run from June until next January. Admission is free. The display shows that the 'English' Civil Wars were in fact a whole series of conflicts which were far from confined to England, and will counter the myth of long-haired Cavaliers fighting shaven-haired Roundheads (a myth which, of course, the Sealed Knot and English Civil War Society have been trying to dispel for years). The exhibition will include portraits, weapons, equipment and a collection of original documents, many of which have never before been publicly displayed.

The NAM has also arranged special facilities for group tours (all ages welcome) and illustrated talks plus demonstrations of, for example, musket drill. Any groups inter-

ested should telephone 071 730 0717 and ask for extension 228 to book a visit. Additionally, there will be a series of lunchtime talks and a special study day on 26 September which will include five lectures by leading experts followed by an open forum. Tickets for this are available from the NAM Education Department, Royal Hospital Road, London SW3 4HT, price £10.

Anyone interested in English Civil War re-enactment should also be pleased to learn that the firm Battle Orders Ltd produce a wide range of replica armour and weapons for this period. To obtain their complete catalogue, send a large SAE (mentioning 'MI', please) to: Battle Orders Ltd, 71 Eastbourne Road, Lower Willingdon, East Sussex BN20 9NR.

As most of you will know, Brigadier Peter Young was the 'founding father' of the Sealed Knot, so it is interesting to see his

name crop up in this issue of the magazine in a completely different context. He is mentioned in the article on British Army manpack radios, written by the first of this month's new contributors. **Lieutenant-Colonel Alex F. Austen, MBE, BEM.** Alex enlisted — under age — in the Royal Signals and served for 16 years as a wireless and line telephone operator. The first eight were served in Shanghai and Hong Kong but from 1940 to 1942 he was attached to the Signals Wing of the Special Forces Training Centre at Lochailort and subsequently with Commando Signals. On being commissioned he transferred to the ROAC and served on the War Office Staff as well as spending six years in Singapore during the Malayan Emergency. Alex retired in 1961 and now enjoys reading, writing and military research from his home in Northamptonshire.

Our second new contributor is also an ex-Army man. **Neil Leonard** was born in 1961 and joined the Regular Army after leaving school at the age of 17. After four years he left to read modern languages at Polytechnic, during which time he was also a member of the 4th Battalion, The Parachute Regiment. Neil has been a life-long enthusiast of the Napoleonic period, one of his funniest memories being having to hitch-hike home from the battlefield of Waterloo after a re-enactment in 1990 — still dressed in French Hussar uniform! Neil now works for the Northumberland Fire and Rescue Service, but his enthusiasm for his chosen period remains undiminished and we look forward to many more articles from him.

Bruce Quarrie



Errata Apologies for the hiccoughs in the June issue. On page 36, Private R.G. Porter's photograph was trimmed due to a last minute alteration, resulting in the loss of the kilt referred to in the caption. Also, on page 17, the photo of the cargo pocket is upside-down.

ON THE SCREEN

Video Releases to Buy:
The Battle of the Somme (Imperial War Museum)
War Women of Britain (Imperial War Museum/COI)
Keeping the Wheels Turning (Imperial War Museum/COI)
Listening to Britain (Imperial War Museum/COI)
The Blow by Blow Guide to Swordfighting (Running Wolf)

AN IMPORTANT series of videos is available from the Imperial War Museum. First to be released was the World War I documentary *The Battle of the Somme* (1916). The film was shot by two official cameramen, Geoffrey Malins and J.B. McDowell, over a two-week period on the Somme Front in 1916 coinciding with the infamous battle. They had not been briefed to create a record of the battle for posterity; it was not until the rushes had been viewed in London by the British Topical Committee for War Films, the production company, that the potential for a feature-length film was realised.

Inevitably, Malins and McDowell

had not appreciated the significance of their work, and had not filmed everything that would be needed for the more ambitious project. A decision was taken to augment their material with some stock footage and some reconstruction material. The latter includes the 'over the top' sequence which ironically became one of the most famous images used to convey the reality of trench warfare.

It is astonishing that the film was shown to an invited audience within one month of the battle, and within a further two weeks was on general release in London. It proved enormously popular: at one point it was being screened simultaneously in over 30 London cinemas. The Imperial War Museum, in conjunction with the Central Office of Information, has recently added three more videos to their catalogue. *War Women of Britain* contains eight short films depicting the contribution made by women both at home and at the front during World War I. The first four depict

the work of various women's organisations. *War Women of England* (1918) is a selection of material from the *Topical Budget* newsreel and includes shots of the Women's Land Army, the Women's Auxiliary Army Corps and the founding of a Women's Parliamentary Party. An extract from *The Care of Our Wounded* (1918) depicts VAD ambulance drivers and First Aid Nurses Yeomanry with the British Expeditionary Force. This is followed by *A Day in the Life of a Munitions Worker* (1917) and *Women's Royal Air Force* — *Life on a British Aerodrome* (1918). The last four films on the tape are short instructional, informative or recruiting 'flashes' aimed at women. Britannia is seen recruiting for the Women's Land Army, and advice is given on growing vegetables, how not to waste soap, and how to make substitute suet puddings!

The theme of women in wartime is continued in *Keeping the Wheels Turning*, which contains seven films focusing on the effects of war on the lives of both women and children during the 1939-45 conflict. In *Night Shift* (1942), women are seen making tank guns; in *They*

FOR DEALERS and collectors May opened with the 48th London Arms Fair. There was uncertainty about this fair since it had been delayed and was later than usual but this had been necessary to avoid a clash with a big Continental fair. This meant it was now on the weekend preceding the Bank Holiday Monday and there was speculation as to what effect this would have on attendance. Such fears proved to be unfounded and the attendance was about the usual number with a brisk Friday and a quieter Saturday. While the majority of dealers could hardly be described as overjoyed, most accepted that in the present economic climate they had not done too badly. It was interesting to see that a few Continental dealers were present offering a variety of East German and Soviet militaria for sale. Judging by the number of Russian officers' caps being offered for sale both in Europe and at the fair, it must be assumed that most Russian officers are going bare-headed!

There seems to be no falling off of demand for deactivated weapons and World Wide Arms, and other dealers, offered a wide range of items from small self-loading pistols up to Bren guns including a number of sub-machine-guns. Whilst many dealers, shooters and collectors have reservations about the propriety of deactivation there is no doubt that there is a large market for them. Its effects are not too serious at present since the weapons being deactivated are in plentiful supply; the danger will come when the demand for such weapons begins to fall off when there may well be a tendency to go for rarer weapons to maintain interest and demand.

Keep the Wheels Turning (1942) a garage owner reluctantly accepts female mechanics to keep his trucks on the road; and in *Jane Brown Changes Her Job* (1942), a typist retrains to build Spitfires. *They Also Serve* (1940), a tribute to housewives and mothers, was the last film made by director Ruby Grierson who was drowned escorting children to Canada when the liner *City of Benares* was torpedoed by a U-boat. The final three films on the tape depict the experiences of children evacuated to rural areas.

Listening to Britain consists of three films by renowned artist and filmmaker Humphrey Jennings.

The Heart of Britain (1941) was produced by Ian Dalrymple, directed by Jennings and edited by Stewart McAllister. It depicts the Midlands and the North in 1941. Images of industries and cities are reinforced with a soundtrack which includes Sir Malcolm Sargent and the Halle Orchestra playing Beethoven, and the Huddersfield Choral Society singing the Hallelujah Chorus from Handel's *Messiah*. The commentary was written and spoken by Crown's

THE AUCTION SCENE

Already some 'broomhandle' Mausers have suffered. Rumour has it that the Home Office is becoming concerned about these 'non-firearms' and this is rather ironic for it was the same department that introduced the idea of deactivation. The reason for this disquiet is probably the few sad cases where someone who has been brandishing a deactivated weapon has been shot by the police. It is difficult to see what other action the police could take apart from allowing the victim the chance to fire the first shot to prove the weapon was real, but this seems rather a lot to ask of the police.

Wallis and Wallis very wisely plan their special Connoisseur Collectors' Sale to take place just after the London Arms Fair. Many of the Continental and out-of-town dealers are still in London and have had a chance to view items at the fair and the sales are consequently well attended and bidding is usually brisk. This sale held on 6 May was a particularly good one with some first class material. The catalogue was impressive with numerous colour plates to show the lots to their best advantage and in consequence only 12 lots out of a total of 241 failed to sell — an enviable record. In general prices were high but this was to be expected for good quality material sells well and average and mediocre material is sluggish in selling.

The sale had something for all interests in arms, armour and militaria. A helmet plate from a post-1902 blue cloth helmet of an officer in the Bedfordshire Regiment

sold for £115 and an officer's universal shako plate of circa 1812 went for £160. There was a group of attractive shoulder belt plates and one of the Grenadier Guards, circa 1815, sold for £490 and another of the Coldstream Guards, circa 1825-55, realised £450. Prices like this would have been thought impossible a few years ago.

There were several military drums and a bass drum from the Royal Horse Guards made £300 whilst a brass side drum of the 1st Battalion of the Welsh Guards sold for a healthy £250.

Helmets, as always, did very well and an officer's helmet of the Royal Horse Guards, in its carrying case, sold for £2,300. A helmet of the Household Cavalry, pattern 1817, with its tall bearskin crest made the top price of £4,000. Bearskins of various units complete with chin-chain and plume all sold at around the £400-£450 mark. An Indian helmet, *khula khud*, with mail neck guard and tall central spike and the skull decorated with Islamic inscriptions, sold for £780. A cuirass of a trooper of the Household Cavalry, post 1902, did extremely well and realised £425.

Among the wide range of edged weapons was a magnificent 1796 Light Cavalry sabre with blued and gilt blade and scabbard which sold for an amazing £2,100. At the opposite end of the scale an RAF officer's sword of George V vintage sold for £525 — still a lot cheaper than a new one. Scottish dirks are always popular and a number in the sale sold at around the £250 mark although one of the Seaforth

senior producer Jack Holmes; a role taken in the American version, *This is Britain*, by Ed Murrow.

Listen to Britain (1942) was again produced by Ian Dalrymple with Jennings and McAllister editing and directing. It develops the sense of harmony between the industrial and the rural, contrasting essentially peaceful images with reminders of war. A tank rumbles through a typical English village; a Spitfire swoops over a cornfield. The soundtrack includes Flanagan and Allen performing in a factory canteen, Dame Myra Hess and the Central Band of the RAF performing at a lunchtime concert in the National Gallery, and ends with the chorus of Rule Britannia. The film, which has no commentary apart from an introduction by Canadian Ken Brockington, thus relies on the associative power of music and images and was described by Jennings as 'the music of a people at war'.

Lastly, *A Diary for Timothy* (1946), produced by Basil Wright, is in the form of a diary written by the parents of Timothy James Jenkins, born on the fifth anniversary of the outbreak of war in an

Highlanders made a surprising £1,100.

There were many interesting firearms and these all did well. A brass-barrelled, spring bayonet flintlock blunderbuss carried on a coach and inscribed Carnarvon & Barmouth went for £4,200. This is a good example of the difference that an inscription or other markings can make in the value of any item. A similar plain example would probably have sold at around £800.

Percussion revolvers, always popular, realised good prices with a 44 Remington Army percussion revolver selling for £800; a London Navy Colt surpassed that at £900. A military flintlock pistol of New Land Pattern sold for £600. Brown Bess flintlock muskets continue to sell extremely well and an India Pattern musket sold for £1,100. A cased pair of flintlock duelling pistols by the famed Wogdon sold for £4,200. Among the modern firearms was a fine cased Webley Fosbery which made £1,200 and a 1911 Colt self-loading pistol sold for £575.

Looking ahead, Phillips had a fine sale due on 28 May which was to include a superb gold and enamel presentation smallsword with an estimate of £15,000-£20,000. There was also an unusual Georgian Colour of the Coldstream Guards issued in 1814.

Listening to the various dealers, auctioneers and collectors at the fair and looking at the sales figures, there seems to be reasonable hope that trade is beginning to pick up at last. If this is indeed the case then the quantity and quality of sales should begin to improve. It is a matter of waiting and seeing.

Frederick Wilkinson

Oxford nursing home. The commentary was by the late E.M. Forster, and is spoken by actor Michael Redgrave. Although completed when victory was inevitable, the film suggests Timothy faces an uncertain future which he will bear some responsibility for shaping. As with the previous film it includes moments from the stage, including Dame Myra Hess and John Gielgud. Versions of the film were released worldwide, particularly in those newly liberated countries of Europe in 1943 and 1944.

The Imperial War Museum is to be congratulated for making these important films available on video, and it is to be hoped that future releases will include the remainder of Jennings' work. Those interested in the above should request a catalogue and mail order form from the Mail Order Department, Imperial War Museum, Duxford, Cambridge, CB2 4QR.

This month's last video is an absorbing 96-minute introduction to the art of swordfighting (*not* fencing) written and presented by Mike Loades, himself a professional drama school instructor. Although it is thus principally aimed

at actors, historians and members of re-enactment societies from the medieval to the Victorian eras will find it of absorbing interest, for it demonstrates not only how to use sword (and dagger, buckler and cloak) in correct period style but, equally importantly, how to use them safely.

The emphasis is on the heyday of duelling in the Renaissance, and as well as practical instruction in key elements of swordfighting such as balance and line, demonstrated by Mike Loades with the assistance of some of his students, the film gives some beautiful close-ups of rapiers and daggers from the Wallace Collection. Mr Loades also stresses the importance of maintaining eye contact with your opponent, shows the right and wrong ways of doing things and the different techniques for attack and defence.

As well as 'classroom' instruction, the film includes several striking duels between actors in a variety of period costumes. It is available from Running Wolf Productions, PO Box 916, London SE16 1EH, price £16.90 plus £1.50 p&p.

Stephen J. Greenhill

Fallschirmjäger, 1944-45

INTRODUCTION

HITLER'S LUFTWAFFE paratroopers were headed by some of the most imaginative and inspirational leaders of all the forces in the Second World War. They were an élite force with their own traditions, customs and special methods of fighting and of dying. They were under the brilliant leadership of Colonel-General Student from the early part of the war when the sight of gliders sailing through the air and parachutes dropping on objectives heralded the arrival of the 'storm clouds of hell' for many an Allied soldier.

For the Germans the early part of the war was the time of spectacular victories like the surprise attack on the thought-to-be impregnable fortress of Fort Eben Emael on the Dutch/Belgian borders on 10 May 1940. This was then the greatest feat in the use of airborne troops ever and heralded

ANDREW STEVEN

ALTHOUGH HITLER forbade any more large-scale airborne operations after the battle of Crete, relegating the paras to a line infantry role, there were a number of smaller-scale drops. This article examines one of the least known and reconstructs the uniforms and personal equipment worn by the Fallschirmjäger as the war drew to its close.

the dawning of the paratrooper age. The successful landing of a small, strong and determined force on the top of an otherwise impregnable fortress changed the role of fortresses for ever. In one blow the historical pattern of warfare was to change. The German airborne forces followed this success with some spectacular surprise landings in Holland. Undoubtedly, the paratroopers were the instrument of both terror and awe. The confidence of the High Command in the use of airborne forces was unsurpassed

and they grew bolder and bolder with their ever-growing success first in central Europe and then in the Balkans.

The largest operation they embarked upon was the attack on Crete, Operation 'Merkur' (Mercury), which started on 20 May 1941. This was a resounding success insofar as the island was captured but the losses of both men and equipment were shattering and marked the death knell of large-scale airborne operations within the German High Command. The use of airborne troops was

Top left:

These two men are typical of the bulk of the forces in the later divisions. Many of the personnel were made up from ground crews and were issued the same smock as the Luftwaffe Field Divisions. These smocks first appeared in 1942-43 and were specially designed and made for the Luftwaffe by their own suppliers. They were made in the same camouflage materials as the standard third pattern smocks. Seen here are two types of material which were commonly used: one is a herringbone weave and the other is a heavy duck cotton material. They are both cut to the same pattern and special shoulder boards were available in matching camouflage material. The Luftwaffe field-blue, slip-on branch-of-service Waffenfarbe shoulder boards were, however, often worn, although the newer personnel, who had no established branch, often had the camouflage shoulder boards or none at all. Due to the difficulties involved in supplying the large number of paratroopers, standard M40 helmets were often issued and here both men are wearing M40 helmets, although one has netting on it to help break up the shape. The MG34 machine gunner has his MG slung. He has a leather MG pouch (Werkzeugtasche 34) in which he carries his tools for the MG, spare bolt, barrel end covers, anti-aircraft sight,

feeder tap and other small spare parts at the right of his belt. On his left hip is a special MG gunner's knife (Patronenheber MG34), in the bakelite handle of which is a set of tools for the gunner to use if necessary on the MG: a screwdriver, cartridge extractor tool, can opener and a corkscrew. Next to this is his P38 pistol in a black holster. The second man has standard infantry equipment for the Luftwaffe in brown leather. An M43 cap is tucked into his large 'Y' infantry support straps which are also in brown. An M39 egg grenade is attached to the closure strap on the ammunition pouches (Patronentaschen). His spade is tucked into his belt. Under the smock are a pair of padded trousers in a water pattern camouflage.

Top right:

Two paratroopers standing in the third type of oversmock in the winter cold. The smock proved very popular and kept the trooper warm. The Oberleutnant has a water pattern smock made of a thin cotton/rayon mix. It has been fastened around his legs as it would be for jumping or in cold weather for warmth; it would be left open in hot weather. Due to the often difficult jobs given to them, the men frequently carried their supplies in the ample deep pockets of the smocks rather than encumber themselves with webbing. This officer carries an MP40 and has a

single, three-pouch magazine at his right hip on his brown Luftwaffe officers' belt, while on the left side is a P38 pistol in a black holster. The whole assembly is supported by the light pattern 'Y' straps normally issued to paratroopers. He is wearing a pair of paratrooper boots with side lacing and a pair of heavy wool, Luftwaffe field-blue paratroopers' trousers which had provision for a gravity knife on the right leg for cutting the lines from a parachute that was tangled. His helmet is attached to his MP40 pouches and he has an M43 Feldmütze in officer-quality field-blue gaberdine material with aluminium wire around the crown and a hand-embroidered Luftwaffe eagle on his head. The man behind is in a splinter pattern smock and has a bag for stick grenades hung round his neck. He also carries a G43 semi-automatic rifle.

Bottom left:

Paratrooper in a splinter pattern smock with a G43 semi-automatic rifle. He has a bandolier for 7.92mm rifle ammunition hung around his neck; the ammunition was carried in pouches with 10 rounds in each of the lower four sections and five rounds in each of the top two; each pouch has a Popper stud fastening for fast release. Also around his neck is a pair of bags for carrying stick grenades: up to five stick grenades could be carried in

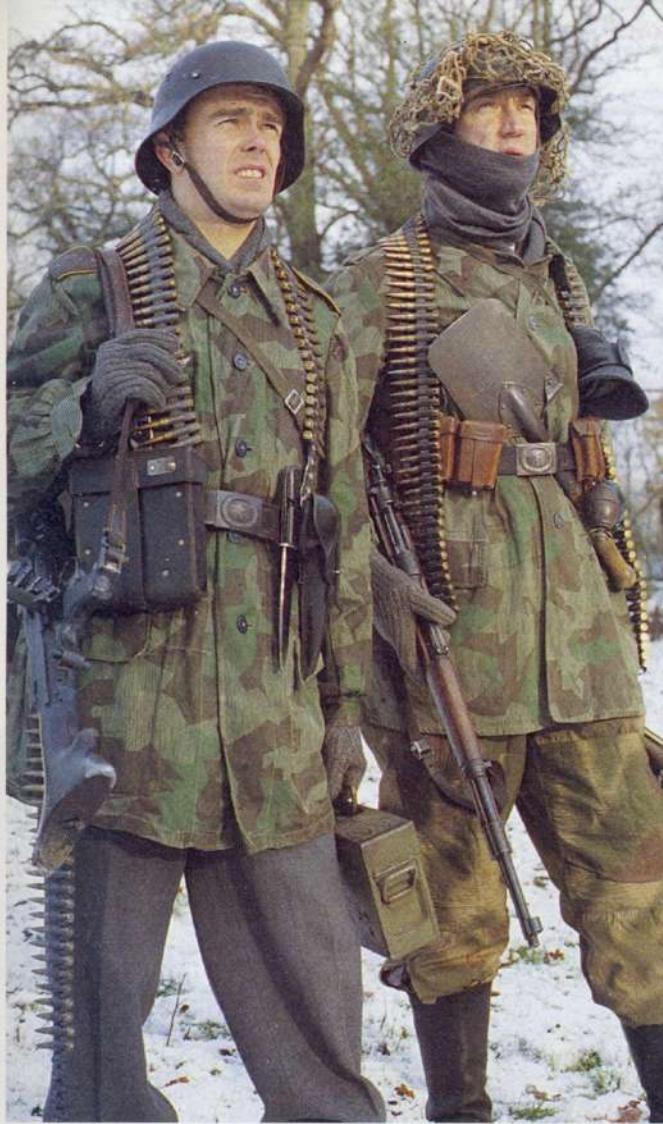
restricted to smaller and less vulnerable operations. This was a blow that could have seen the fragmentation of the forces but this did not happen to the Fallschirmjägertruppe. The esprit de corps that had formed was so powerful that the 7th Flieger Division and the Airlanding Division formed from Luftwaffe personnel and the Army's 22nd Division were amalgamated into XI Flieger Korps which was later to form the 1st Fallschirmjäger Division, in 1942.

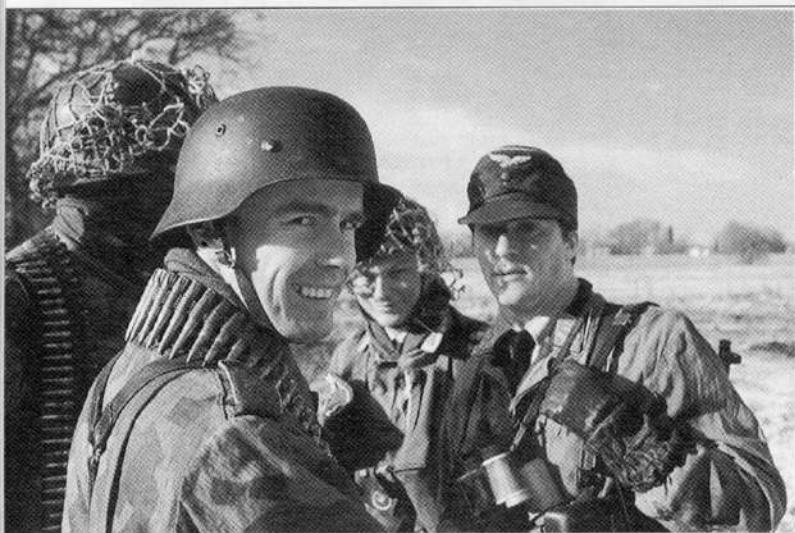
In 1942 the High Command needed new troops to help replace those lost on the Eastern front. The Luftwaffe were instructed to form new divisions to help with the ground war as they had a surplus of ground personnel. The Luftwaffe therefore formed the first of 22 Luftwaffe Field Divisions. Many of these troops, ill trained and poorly led, were decimated on the all-

each bag, which was made in a burlap material closed at the top by a luminescent zip common only to the Luftwaffe.

Bottom right:

Clear view of the ground forces' equipment. It is the same as for the army infantry but was all produced by Luftwaffe suppliers, mostly in Luftwaffe field-blue. The man on the left has a full assault pack (Gefechtsgepäck für Inf. Schützenkompanien) in field blue and brown British web with correct German metal fittings; the mess tin (Kochgeschirr M31) and a Zeltbahn, which was common to all German armed forces, are attached. A lot of good British web was captured after Dunkirk and pressed into German service. The leather fittings on the pack are all in Luftwaffe brown. Attached to his belt is a field blue bread bag (Brotbeutel M31) with brown leather strap fittings and a water bottle with cup (Feldflasche M31 and Trinkbecher) is attached to it. The bayonet frog (Seitengewehrtasche) and spade (Kleines Schanzzeug) cover are all in Luftwaffe brown. He is carrying a Klein Panzerfaust (Faustpatrone or Gretchen) which had the simple-to-follow instructions on the head. This was a very short range weapon and it would have taken a very determined or desperate man to use it in combat as the effective range was only up to 30m.





Rear view of the ground forces' smock clearly showing the separate shoulder boards in standard Luftwaffe field-blue with the yellow Waffenfarbe denoting membership of the flight section.

consuming Eastern front. After their rather dismal fighting ability had been demonstrated, the High Command decided to form more Fallschirmjäger divisions. The paras had proved themselves and the High Command felt that the sense of belonging to an élite was a very important feature in their success. Many of the better members of the Field Divisions asked to be transferred to the paratroopers.

With the growth of these new units, the Field Divisions must have felt keenly the losses within their ranks, and the view that they were of less importance can only have been reinforced. The Army had control over these rather hapless units while the Luftwaffe had control over the Fallschirmjäger divisions. The shortage of troops for the front was extremely acute and the formation of new units was started. The 2nd Fallschirmjäger Division was created in 1943 under the brilliant leadership of Lieutenant-General Bernhard Ramcke. The fighting ability of these paratroops proved to be so good that it was decided to further increase the number of Fallschirmjäger divisions. Many of the replacements for the Army-controlled Luftwaffe Field Divisions were from the army conscript pool, and a large number of the old Luftwaffe troops quite understandably wished to be transferred into the élite Fallschirmjäger divisions.

The last full-scale offensive operation by the Fallschirmjäger was during the Ardennes campaign in the winter 1944-45. Two divisions were used, the 3rd and 5th, which were formed on and around the old German

up 100 of its best and most experienced men from each of its regiments for the new unit.

Von der Heydte was less than happy with the men made available to him from the Fallschirmkorps: many lacked any commitment to any sort of operation and believed that they had been sent just to remove them from their original units, and a number were sent back as unsuitable. The gaps were finally filled by volunteers, many of whom had never jumped from an aircraft before. Von der Heydte had hoped to avoid this but the shortage of parachute-trained men was very acute.

The operation was imaginative and well planned. Dummy parachutists were dropped to mislead the enemy as to the number of men attacking. Real troops were to land on pre-marked DZ zones; all available searchlights were to be used as beacons from Paderborn and at the front line, by way of Bonn, 20mm anti-aircraft guns were to fire tracers where searchlights could not be used to guide the 67 Junkers Ju 52 transport aircraft which had been gathered for the operation from all the German fronts. Many of the pilots were new and of poor quality through lack of any flying time as the better pilots had been sent to the fighter squadrons; similarly, many had only just left flight school and sorely lacked training in formation flying. Von der Heydte was so alarmed by the lack of experience in this most important part of the operation that he went to Field-Marshal Model and gave him as full a picture of the situation as was possible. Model is reported to have asked von der Heydte if he thought the operation had a 10% chance of success, to which von der Heydte replied 'possibly'.

Operation 'Stosser' was on. The parachute drop was scheduled to take place between 04:30 and 05:00. The men were all set to go but the transports did not arrive and the operation was postponed. Later, it was reinstated as aircraft started to arrive. The Luftwaffe weather forecast was very inaccurate in respect of wind speed and this meant that the inexperienced pilots, already uneasy about what was expected of them, chose to fly by dead reckoning: this was (on paper) the most reliable way to get the paratroops to the appointed drop zones. With the wind speed set wrong the instruments were inaccurate and this led to many of the

paratroops being dropped way off target into a bleak and hostile land. Of 870 men who left, only about 450 landed in anything like the right area of Holes Venn, with about 100 landing on the drop zone. To give due credit to the paras, some 50 men made their way to the drop zone, giving von der Heydte some extra strength, but none-the-less the planned operation had to be called off. Von der Heydte adapted to the situation with the men available.

The four-man Waffen-SS radio operation team, led by the SS-Obersturmführer who commanded the long range artillery of 7 Batterie, SS-Pz Art Reg 12, which was to support the paratroops, had lost their radio. Carrier pigeons were to have been available but Sepp Dietrich, (commander of the 1st SS Division Leibstandarte 'Adolf Hitler') did not allow them to be used as it was a 'modern' army with 'modern' equipment.

Von der Heydte had gathered, through reconnaissance, nearly all of the information needed by the Sixth Panzer Army that his force was to have supported, but had no way to communicate his findings to them. Over the next few days 50 more men, who had been rallied together by a former army officer turned war correspondent named von Kayser, were to arrive but the force was only supplied with a day's food and with the operation lasting over two days the supply situation was getting desperate. A number of drops were successfully made to von der Heydte's force but these were not of the supplies that his men needed. Besides, the situation was getting worse: the Americans, now fully aware of the appearance of German paratroopers behind their lines, dispatched some available forces to find them.

The Sixth Panzer Army, which had eventually received runners from von der Heydte, was aware of their plight but unable to do anything to help and left them to their fate. Von der Heydte, decided to call off the whole operation. Other men had by this time arrived to add to the small force. The decision was made to break out for their own lines. This was on the night of 19 December, four days into the operation. The force of about 300 men walked through the night in the inhospitable terrain of the steep-sided Soor and Helle valley ranges and came across some small American forces, but with very little

ammunition avoiding contact was paramount if they were to have any chance of reaching their own lines.

After another two days the force had broken up into small bands of four or five men, their clothing wet through from the swampy ground, cold from the bitter wind and desperately hungry. They had all reached the end of their tether and von der Heydte, who was himself suffering from exhaustion, exposure and an aggravated old injury, was captured in a farm on the outskirts of Monschau only a few kilometres from the German lines. Operation 'Stosser' ended. It had lasted for seven days in total and had a sorry conclusion even for a mission that had only a 10% chance of success.

way lines. They appear to have had only one goal: to make their way back to the front, doing as much damage as possible on the way. I have only seen documentation regarding this particular operation but have been told of others of a similar nature all on the Eastern Front. They were paratrooper operations in name only and were carried out by desperate commanders and by loyal and determined paratroopers. Their overall impact would have been minimal and they would have been all but forgotten but for the fact that some of the men were captured and later released from Russian camps with their stories. So small was their effect in the overall picture, that they were often felt not to be worth talking about.

the appalling losses of the Normandy battles, were given the task, together with the original garrison, of denying to the Allies the fortress port of Brest. Cut off from all supplies, the division was forced to surrender on 19 September 1944. It was re-formed in name only as part of the 1st Fallschirmjäger Army and fought in the Arnhem area and Reichswald battles. Forced across the Rhine while fighting with LXII Korps on the northern part of the Western front, it was finally trapped in the cauldron that was the Ruhr Pocket. The battered remnants were forced to surrender to the Allies along with Marshal Model's Army Group B.

The 3rd Fallschirmjäger Division was formed under Major-General Richard Schimpf. It was raised and stationed in Brittany in 1943-44 and soon found itself heavily involved in the Normandy battles. As with many other units, it was bled white during the bloody battles around St Lô. During the battles of the Falaise pocket many of the surviving personnel were cut off and forced to surrender in August 1944. Some fought their way out only to find themselves trapped in the Mons Pocket and forced again to break out. Finally the division was partly refitted in Holland in September 1944 to fight in the Ardennes offensive as part of 1 SS Panzer Korps, Sixth Army. (Members of this division are the ones so often seen photographed on the Waffen-SS tanks of SS-Obersturmbannführer Joachim Peiper where they had been taken up to boost their flagging morale.) They suffered appalling losses largely through lack of training: the 9th Fallschirmjäger Regiment of this division was pulled out of the line in January 1945 with three-quarters of its men dead, wounded or missing. Later, as part of LXXIV Korps, the division fell to one of Hitler's 'hold-on-at-all-costs' orders. Again the survivors were forced to escape from a pocket only to end up trapped in the Ruhr and finally to

surrender to the Allied forces in April 1945.

The 4th Fallschirmjäger Division was formed in Italy towards the end of 1943 and fought most of its battles alongside the 1st. This division was commanded throughout by Major-General Heinrich Trettner and included in its establishment the élite Italian paratroop units 'Folgore' and 'Nembo'. The 4th fought on the Italian front as part of the 1st Fallschirmjäger Korps, first at Anzio and then in all of the major battles on the Italian front: Florence, Rimini, Bologna and in the Gothic Line in 1945. Finally surrounded in the last battle of Verona, they surrendered to the Allies in April 1945.

The 5th Fallschirmjäger Division was formed in April 1944 under the command of Lieutenant-General Gustav Wilke and all but destroyed in the Falaise Pocket after the Normandy battles. It was re-formed from Luftwaffe ground personnel who were poorly trained and had unskilled officers and then it was engaged in the Ardennes battles for which the men were ill-prepared. They fought around Bastogne as part of LXXXV Korps, Seventh Army, Army Group B. In the final battles they were reduced to Kampfgruppe (battle group) strength and, as part of the Fifteenth Army, they fought in the battle of Pruem just west of the Rhine: with its back to the Rhine the division was all but destroyed again. The few who escaped were captured in the Ruhr Pocket in April 1945.

The 6th Fallschirmjäger Division was not formed until June 1944, under Major-General Rüdiger von Heyking, and fought with distinction in the Normandy battles. The command was excellent and many of the officers were later to form part of the 7th Fallschirmjäger Division. The 16th Regiment was later transferred to the 'Hermann Göring' Division. The 6th Division was to fight in the battles attempting to deny Paris to the Allies. Greatly reduced in num-



First pattern FG42 with pressed metal stock and closer fitting collapsible tripod. The spike bayonet again is in the folded down position under the barrel.

It had actually succeeded in all of its aims but without radio communication with the Sixth Panzer Army, all was in vain. The Americans continued to capture von der Heydte's men for many days. Large numbers of troops were used until nearly all of the paras were accounted for but Belgian farmers would continue to find the pitiful remains of fallen paratroopers for many months after the tide of war had passed. Some never were found and must have wandered lost through the dark forests and died there unknown to this day.

OTHER OPERATIONS

This was the largest German airborne operation carried out in the last months of WWII. Other, smaller operations did, in fact, take place and many were unrecorded or lost. One operation, carried out by some determined paras led by a Lieutenant Baur, involved dropping behind the Russian lines to cut telephone and rail-

APPENDIX

THE FATES of the other Fallschirmjäger divisions during the last part of WWII were rather different. They were fighting on different fronts in some of the most appalling conditions and often with outdated orders from a High Command that was fast losing any real perspective.

The 1st Fallschirmjäger Division ended its days in the lower Alps of northern Italy after having suffered a very costly withdrawal from Bologna. They were under the overall leadership of Lieutenant-General Richard Heidrich (the hero of Cassino), who was the last commander of the 1st Fallschirmjäger Korps in Italy (which included the 1st and the 4th Fallschirmjäger Divisions). They finally surrendered undefeated to the Allies while commanded by Major-General Karl-Lothar Schultz in the spring of 1945.

The 2nd Fallschirmjäger Division was under the inspired leadership of Lieutenant-General Bernhard Ramcke, the most decorated German paratrooper of WWII. The remnants of the 2nd Division, about 8,000 men who had survived

The rabbit fur-lined jacket was designed to fit under a greatcoat or other winter coat for better warmth but was often worn without the overcoat, as here. The hole under the arm was so that the arm pits could 'breathe' under the outer coat. The men from the second line troops would, when transferred to front line paratrooper units, take clothing and equipment from their original unit with them; sometimes whole second line units went lock, stock and barrel into the front line.





Top left:
Fallschirmjäger Unteroffizier in a late war water-pattern type three jump smock which has been left open at the bottom. The deep pockets of the smock allowed the man to carry his magazines safely and concealed zips were provided on the pockets so as to allow easy access to the contents. The flap over the pocket was intended to prevent the contents from falling out easily after the zippers had been undone. This man has a second pattern FG42 with wood furniture and the pistol grip trigger placed vertically.

Top right:
Winter padded suit. These were well used in the field although the white side was hard to keep clean. This man has standard field infantry equipment in Luftwaffe brown, typical of many divisions in the winter of 1944-45. His M40 helmet is a whitewashed colour but the field equipment still remained in field colours along with his belt equipment. Paratroopers were generally very well clothed although some other men, even within the same division, were poorly clothed. The supply situation was always a problem for the German Army and the Luftwaffe; the number of troops who needed to be clothed never diminished and this caused innumerable problems to the German quartermasters.

Bottom left:
This is an example of the extremely rare MP40-II or a Gerät 3004 with double magazines in a sliding housing. These were made in an effort to increase the firing capacity of the gun but were rather difficult to use.

Bottom right:
Paratrooper in winter suit of white padded trousers, jacket and gloves. They are made in a reversible material with either grey or camouflage on one side and white on the other. The weapon, which he would have carried in 1944, is a K98 which could have a 'winter trigger' on it fitted over the actual trigger and into the trigger guard, enabling him to fire it while wearing heavy gloves. Hung around his neck is the standard field blue bandolier for 100 rounds of K98 ammunition, carried in separate sections with stud fasteners for easy release. His M38 Luftwaffe helmet has a single decal and the strap has the earlier version friction clip and strap fitting. He is wearing two toques, made of grey wool and measuring 40-42cm long and 24-26cm wide, one around his neck and the second around his head. This was the commonest winter item issued and was seen in the kit of almost all of the troops.

bers, its survivors soon found themselves in the Mons Pocket. As part of the First Fallschirmjäger Army, the survivors also fought in the Arnhem and Reichswald battles. During the massive restructuring of the German armies before the start of the winter offensives of 1944/5, the 6th was placed under the command of Major-General Hermann Plocher. In the last months of the war the 6th Division was helping to contain the British bridgehead over the Rhine, finally surrendering undefeated to the Canadians near Zutphen in 1945.

The 7th Fallschirmjäger Division

was formed in September 1944 from the many Luftwaffe units then in and around Holland and Belgium as part of the First Parachute Army. Even before the division was completely formed it had to form a defensive line along the Albert Canal in September 1944 under the command of Lieutenant-General Wolfgang Erdmann, then the Chief of Staff to General Kurt Student. This rather haphazard formation fought bitter and often decisive battles against some of the best of the Allied forces who were then pushing their way down the difficult and infamous 'Hell's Highway' to relieve the beleaguered Allied airborne forces in and around Arnhem in September 1944. The division was then re-formed using men from parachute training schools and, surprisingly, some from Waffen-SS training schools, and given a new command structure. The division fought against the British forces on the northern sector of the Western front. In February 1945 it found itself up against XXX Corps (again) and destroyed a large number of their tanks during the battle of Kappeln. Finally, undefeated, the remnants surrendered to the Allies near Oldenburg.

The 8th Fallschirmjäger Division

was formed in September 1944 and received full designation in January 1945. It was commanded by Lieutenant-General Wadehn. This division was never properly formed and was never up to full divisional strength; as with all formations around this time, the acute shortages of men and equipment were always a problem. The 8th seems only to have reached regimental strength. It entered combat as part of Meindl's Second Fallschirmjäger Army for the battle of the Reichswald in the northern part of Germany. It was finally to fight in the battles around Bremen in April 1945 at which it was soundly defeated and the remnants surrendered to the Allies after the battle.

The 9th Fallschirmjäger Division

was again formed only in name very late in 1944 in the eastern part of Germany from excess Luftwaffe personnel who became available as the Luftwaffe was by this time desperately short of aircraft fuel and therefore had a surplus of manpower. Many of the personnel were pilots and aircrew: determined men although desperately short of ground combat experience. The division, commanded by Major-General Bruno Brauer,



Two members of a late war Fallschirmjäger regiment showing mixtures of equipment as would have been very common; the man crouching in the foreground has a blue-grey helmet with a single decal. Across his back is the soft carrying bag for the gasmask that regulations insisted he carry (the metal tin was universally hated: it was bulky and awkward to carry particularly when compared to the paratroopers' specially developed lightweight one). Standard field equipment is being carried but, as was often the case when wearing the winter quilted suit, is not suspended from a 'Y' strap assembly. The suit hood has been pushed back off his head so that a clear field of vision is possible but, when pulled up, it provided camouflage for the helmet. He has felt boots in Luftwaffe fashion with brown leather bottoms. There is a button on his sleeve to which a coloured identification band could be attached if required. The second man, a member of the Luftwaffe, is also in the winter suit but it is without the finer trappings seen on the first man. He has wool gloves in place of the better, quilted, reversible ones, and standard infantry ankle boots. Despite the fact that these boots were impractical (they were inclined to chill the foot because of the metal fittings), the war situation was so difficult that the men continued to wear them, often with old newspaper inside for insulation. His equipment is again standard but the Zeltbahn has been attached to his 'Y' strap above the gasmask tin with greatcoat straps.

seems to have been formed in two parts. The first Kampfgruppe was involved in very bitter fighting in and around Breslau to protect their people from Russian excesses and it continued to fight even after the battle of Berlin was over. The second Kampfgruppe fought on the Oder and in Pomerania and was wiped out in the bitter fighting outside Berlin before the final battle. This Kampfgruppe, with the help of the Luftwaffe anti-aircraft regiments which were stationed around Berlin, put up a superb fight and had some of the best fire control. The Russians who attacked thought that the Germans had brought up a new army to oppose their drive on Berlin. Pitifully few in number, the odds were against these men and nothing could stop the sustained Russian drive, by some of the in best troops, for long; finally the few remaining men broke and ran to the rear in panic, the only Fallschirmjäger division ever recorded to do so. To give due credit to their ability, they stood against overwhelming odds and were only beaten into submission by superior numbers and a skilled opponent, determined to finish Berlin.

The 10th Fallschirmjäger Division

was formed in name only in March 1945 in Austria. It fought against the Russians in the Danube Valley and was then transferred to Czechoslovakia for the final battles that never came. It surrendered to

the Russians at the war's end.

The 11th Fallschirmjäger Division was the last of the divisions and was raised in March 1945 under the command of Colonel Walter Gericke. The fast changing military situation never allowed the formation to be anything more than a Kampfgruppe and its forces disappeared into the chaos that was the war's end in the Europe of 1945.

Many of the divisions received members who had recovered from wounds and found themselves assigned to different divisions from those in which they had previously served. This effectively gave the divisions a good pool of talented NCOs and newly promoted veterans who had seen active service elsewhere. This had the advantage of giving the newly forming divisions some skilled NCOs; they were sorely needed but this was not a popular policy with many of the veterans themselves.

The Fallschirmjäger divisions fought on all fronts in the last months of the war and, although they often lacked heavy weapons, had an array of other equipment all developed by the Luftwaffe for the airborne troops. The Luftwaffe had their own manufacturers and distribution centres. The effect of the lack of heavy weapons was reduced by the increased use of some semi-automatic and automatic weapons like the FG42 and the MP38.



THE FREIKORPS

Men of the Freikorps in the Weidinger Strasse, Berlin, March 1919. (Bildarchiv Preussischer Kulturbesitz, Berlin.)

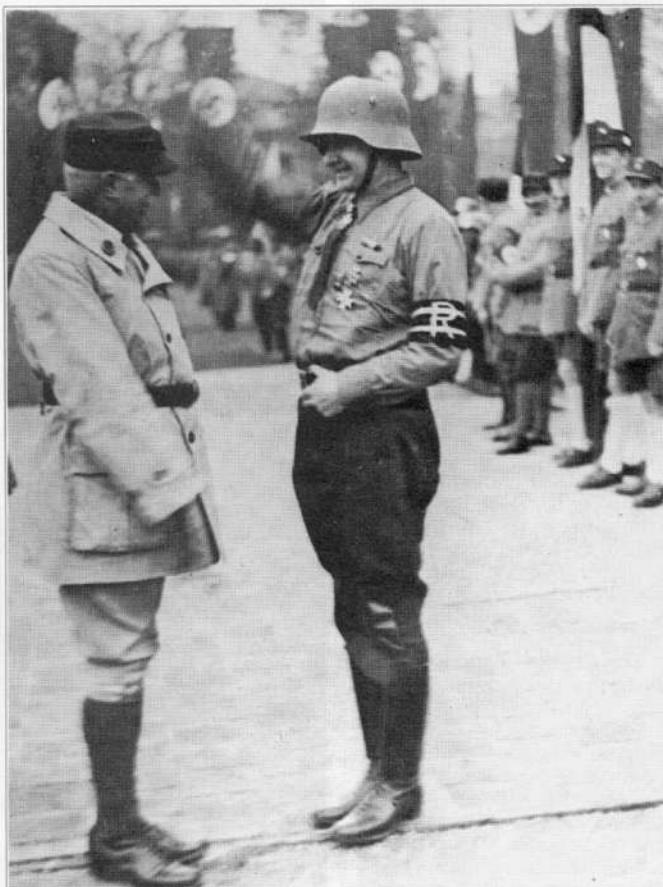
AFTER THE First World War the German army simply disintegrated. There was no proper machinery for demobilisation. The result was that the government was left with insufficient reliable troops to deal with incursions from abroad (two Polish invasions of Silesia) or civil insurrections at home (the communist seizure of power in a number of towns and cities).

To fill the void it was obliged to fall back on the services of a multitude of small volunteer bodies, bands of armed men (usually ex-front-line soldiers, but often including students too young to have served in the war) who came together in individual units, each of roughly battalion size, under the leadership of, almost without exception, a former front line officer. These groups frequently took the name of their commander and always accepted only his authority. They were collectively known as the *Freikorps*, a name with historic and heroic connotations. *Freikorps* (Free Corps) formations had, at the time of the War of Liberation against Napoleon, harassed the French and helped to drive them from German soil. They were, in effect, the 'resistance' of their day. It would be impossible to detail the history of all the *Freikorps* units here (there were more than 130 of them), so only a number of the more notable will be dealt with.

One of the most celebrated was that formed in the German naval base at Wilhelmshaven by the former commander of the 9th Torpedo Flotilla, Lieutenant-Commander (*Korvetten Kapitän*) Hermann Ehrhardt in March 1919. This formation,

OFTEN MISUNDERSTOOD and inaccurately described, the bands of *Freikorps* who roamed the streets of German cities in the aftermath of the Great War, as well as fighting in Poland and Latvia, form a rich subject for further research. This article summarises their short-lived history and describes their uniforms and insignia.

DAVID LITTLEJOHN



Gerhard Rossbach in SA uniform (with Rossbach brassard) greets General von Echter, Munich 1934. In the background is a detachment of the Bund Oberland. (J.R. Angolia.)

comprising naval officers, petty officers and students, was at first known as the Wilhelmshaven Brigade, later as the 2nd Naval Brigade (its official title — a 1st Naval Brigade having previously been formed in Kiel), but it was popularly known, in typical *Freikorps* fashion, as the Brigade Ehrhardt.

The Naval (or Marine) Brigades — there were three eventually — had originally been formed to suppress mutinies which had broken out, even before the end of the war, at the two principal naval bases of Kiel and Wilhelmshaven. But the disaffection quickly spread, and soon many towns and cities were in the hands of the Spartacists (the name given to the German communists). Berlin itself was threatened. In April 1919 Defence Minister Gustav Noske summoned Ehrhardt and his men to the capital where they joined other volunteer formations and loyalist regulars in the newly created 'Guards Cavalry Rifle Division' (GKSD). The Berlin revolt was mercilessly crushed; the Spartacist leaders, Karl Liebknecht and Rosa Luxemburg, being arrested and shortly thereafter murdered by *Freikorps* men.

During the early months of 1919 communist uprisings broke out in Dresden, Leipzig, Halle and Munich. A battle to 'liberate' this last mentioned city was fought between 30 April and 2 May. Among several units participating was Ehrhardt's Naval Brigade and the *Freikorps* of Franz Ritter von Epp. At this time an unknown army Lance Corporal, Adolf Hitler, was quartered in



Freikorps troops keep a close watch from the top of the Halleschen Tor in Berlin during the Kapp Putsch, March 1920. Note swastika painted on the front of the helmet of the man second from right, predating the emblem's use by the Nazis. (Bildarchiv Preussischer Kulturbesitz, Berlin.)

Munich. He took no part in the action, but it inspired him to attempt a Freikorps-style putsch of his own some four years later.

After successfully crushing communist insurgency in the Reich, Ehrhardt moved his force east to join other Freikorps units in Upper Silesia. German, or more correctly Prussian, occupation of this ethnically mixed region dated back to the days of Frederick the Great. When the First World War ended and the state of Poland was resurrected after years of Russian dominance, the Poles at once laid claim to the territory. Their first invasion (1919-20) was repulsed by a combination of German army, Freikorps and indigenous 'frontier defence' (*Grenzschutz*) units. The British and French were alarmed by the existence of these 'unofficial' troops and in February 1920 the Allied Commission in Berlin demanded that the Naval Brigades be disbanded. Yet, only a month later, Ehrhardt's 5,000-strong force took part in a semi-farcical affair known to historians as 'the Kapp Putsch'. Assisted by disaffected Freikorps units, Wolfgang Kapp attempted to seize power by means of an armed coup. The whole fatuous enterprise collapsed when the troops refused to obey their new masters, the nation's work force went on strike and Germany's 'National Captain' Erich von Ludendorff, who had promised his support, publicly disavowed the Putschists.

On 12 May 1920 the Brigade Ehrhardt was officially stood down at Sennelager. This was by no means the end of Ehrhardt or his followers,

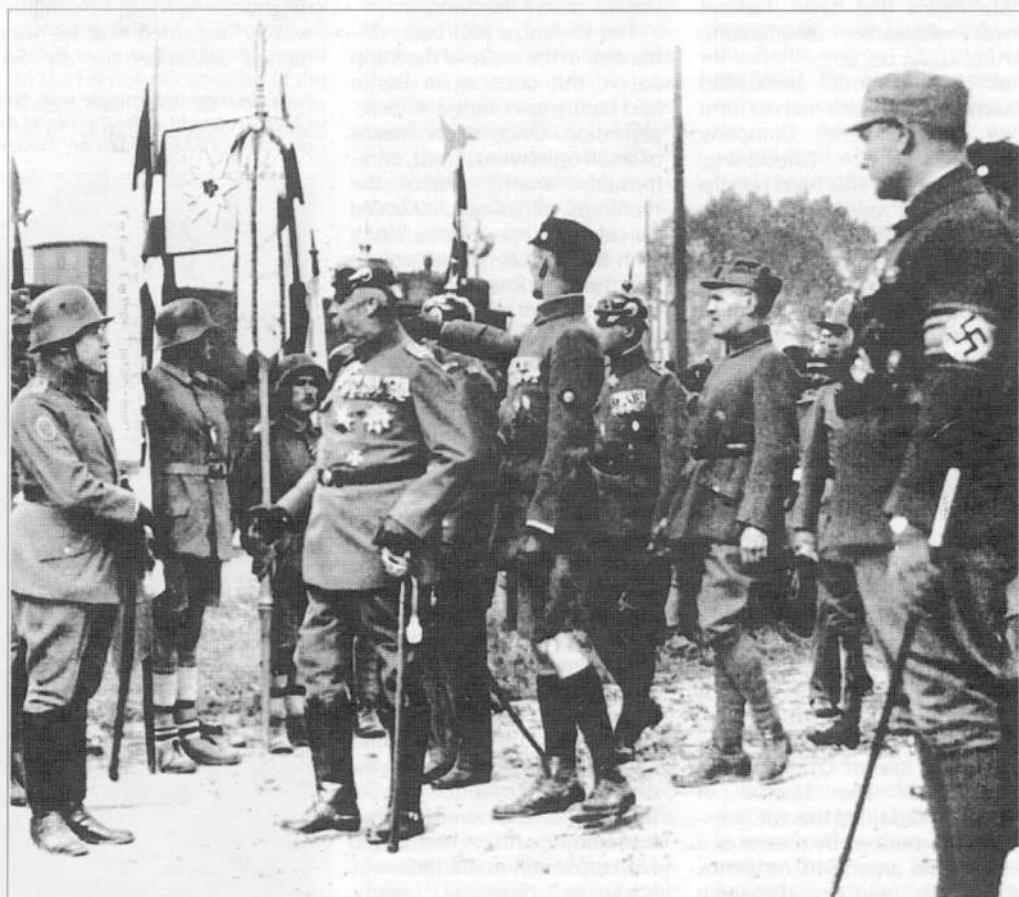
though. Ehrhardt himself moved to Munich where, under the guise of running a 'Wood Utilisation Company' (*Holzverwertungs Gesellschaft*), he directed the sinister and subversive 'Organisation Consul' ('Consul' being a covername Ehrhardt had at one time assumed) which was responsible for two of the most notorious political assassinations of the time — those of Foreign

Minister Walter Rathenau and Finance Minister Matthias Erzberger.

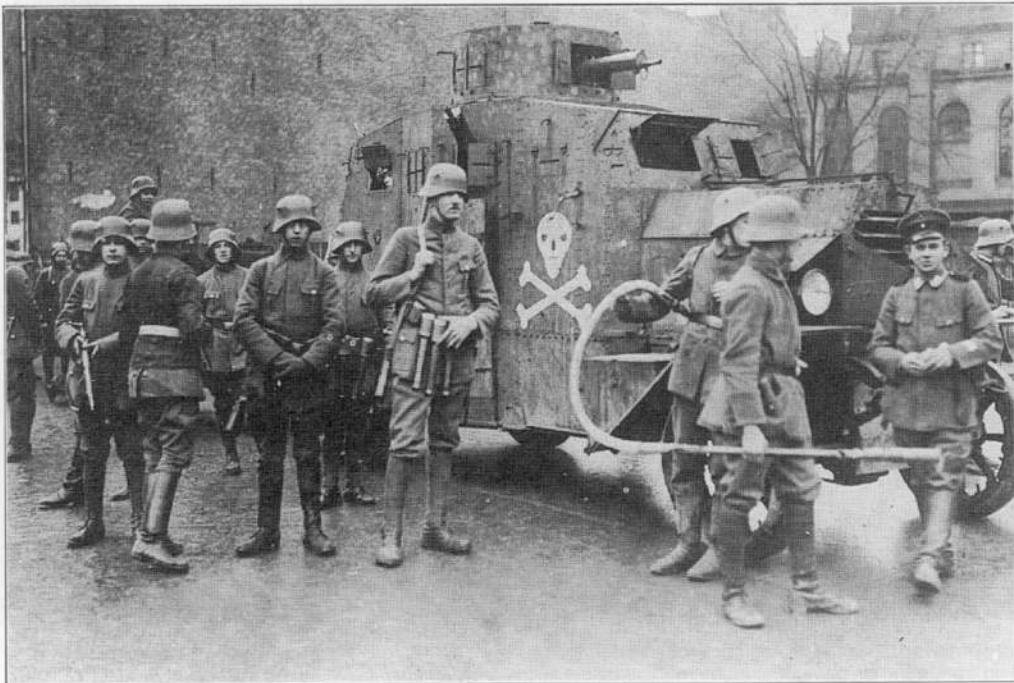
Ehrhardt also had a hand in Hitler's rise to power. He seconded a former Brigade Ehrhardt officer, Hans Ulrich Klintzsch, to command the Nazis' newly created SA (Storm Troopers) in August 1921. When, in January 1923, the French occupied the Ruhr, Ehrhardt fell out with Hitler

over their differing reactions to the situation — Ehrhardt wanted an immediate declaration of war on France! He recalled Klintzsch, and Hitler turned command of the SA over to another war hero, Hermann Göring.

On 9 November 1923 when Hitler attempted his celebrated Putsch in Munich, Ehrhardt withheld his support, partly on account of his differences with



Ludendorff inspects members of the Bund Oberland, September 1923. The tall figure behind him is Dr Weber. In the foreground is Göring in his uniform. Note Edelweiss banner (left). (Charles Messenger.)



Freikorps with flamethrower and Ehrhardt Type E-V/4 armoured car, during the battle against the Spartacists in Berlin, March 1919. (Bildarchiv Preussischer Kulturbesitz, Berlin.)

Hitler, but mainly to revenge himself on Ludendorff (who marched with Hitler) for letting him down over the Kapp affair.

Ehrhardt continued his own independent political line for many years. The Brigade Ehrhardt lived on as the Bund Wiking, a paramilitary body of some 15,000 men similar in style and political tone to *Der Stahlhelm* (the Steel Helmet war veterans' association). After Hitler became Chancellor in 1933 Himmler persuaded some of Ehrhardt's men to form an independent Company (*Selbstständige Gliederung*) within the SS. This Nazi poaching of his men was deeply resented (and resisted) by Ehrhardt. No doubt he appreciated how little the token 'independence' meant. In truth it was shortlived (June 1933 to January 1934); thereafter the Ehrhardt men were simply incorporated wholesale into the SS or SA. A disgruntled Ehrhardt withdrew from the political scene.

Another Freikorps chief who played a not insignificant role in the Nazi rise to power was Gerhard Rossbach. His Freikorps had taken part in the suppression of the Spartacists in Germany, but it was in Silesia that it gained its greatest renown.

The wrangle with Poland over the fate of Upper Silesia continued. The League of Nations ordained that the question be resolved by means of a plebiscite among its residents. This was held on 21 March 1921 and resulted in a majority vote in favour of remaining

German. The Poles, however, refused to accept this verdict and a second Polish invasion of the region began. This caused a rift between the western allies — France, anxious to weaken and humiliate Germany, sided with the Poles; the British argued that Poland had done well enough out of the Versailles settlement and should accept the decision.

The Freikorps had been disbanded in the wake of the Kapp fiasco, but once again Berlin had tacitly to connive at its reactivation. Once again dozens of small units were raised, or reformed; among them the Freikorps Rossbach. Moved quickly to Upper Silesia along with half a dozen other volunteer units, Rossbach's men (some 900 in all) took part in what was to be the Freikorps' most notable victory. At dawn on 23 May 1921 a combined German army and Freikorps force stormed the Polish stronghold in the Annaberg Monastery on the east bank of the Oder. They achieved a complete success, but it was to prove a bitter-sweet victory. The very next day, under pressure from the Allies, Berlin ordered the withdrawal and disbandment of all Freikorps formations.

It would, of course, have been impossible for the British and French to have foreseen the unfortunate consequences of this decision. Hundreds of disillusioned and embittered Freikorps men made their way back to Germany, many, including Rossbach, to the Bavarian capital, Munich. By

(Chief of Staff for the SA), a post subordinate only to Göring (who had sought shelter in Sweden) and his deputy Ernst Röhm (Röhm played an active part in the Putsch but was, incredibly, only 'severely reprimanded' by his army masters).

On 18 May 1924 Röhm called a convention of SA leaders at Salzburg (Hitler was, at this time, still in prison). During the course of this meeting Rossbach announced that he could lay his hands on a large quantity of brown shirts — destined for Germany's armed forces in East Africa, but as a consequence of defeat, never delivered. This job lot was on offer at a knock-down price and Rossbach proposed that it be snapped up and the brown shirt adopted as the new uniform of the SA; this was agreed. When, in February 1925, with Hitler once again a free man, the SA was reconstituted, the brown shirt became the famous, or notorious, symbol of the Party. For this, if for nothing else, Rossbach deserves a place in Nazi history. In fact Rossbach, a close friend of Röhm (whose homosexual proclivities he shared) continued to play a conspicuous role in the Party and was even considered as a possible leader for the Hitler Youth when it was first formed.

Another Freikorps unit which returned to Munich after the 'battle of Annaberg' was the Freikorps Oberland. Originally

Early SA members mingle with Freikorps men in München-Oberwiesenfeld (later the site of the 1972 Olympic Games stadium) on 1 May 1923. (Bildarchiv Preussischer Kulturbesitz, Berlin.)



raised in the Munich area by Major Ritter von Beckh in April 1919, it had initially been intended only to function as an anti-Spartacist force in the Reich, but was re-activated for the Upper Silesian campaign in 1921. After its disbandment, some 4,000 of its members were integrated into the regular army as Reichswehr Brigade 21; the rest were regrouped and renamed the Bund Oberland under the leadership of veterinary surgeon and former army Captain Dr Friedrich Weber. The uniformed Bund Oberland allied itself with Hitler and played a leading role in the November 1923 Putsch; after its failure Dr Weber shared with Hitler incarceration in Landsberg Prison.

A third Munich-based Freikorps unit notable for its contribution to the success of Hitler was that of Colonel Ritter von Epp. As already mentioned above, Freikorps Epp had been actively involved in the 'liberation' of Munich in May 1919, and von Epp, a highly decorated officer on the headquarters of the Bavarian army in Munich, had been instrumental in supplying right-wing groups (the Nazis included) with arms. Significantly von Epp's Chief of Staff was none other than Captain Ernst Röhm.

Yet another Annaberg veteran conspicuous for his support of Hitler was former army Lieutenant Peter von Heydebreck. His Freikorps survived the official dissolution by adopting the disguise of a 'work



Left: Colonel Ritter von Epp in army uniform with Freikorps von Epp rank insignia and arm badge.

Right: This former Hussar wears on his left cuff the Wehrwolf emblem on a black/red/black band. The shield arm badge is for service in the Selbstschutz Schlesien (Silesian Self-defence Force, 1919). (J.R. Angolia.)

group' (*Arbeitsgemeinschaft* — a popular 'cover' used by several theoretically disbanded Freikorps units). By sheltering under this fabrication it was able to remain, secretly armed, in Silesia and the great estates of East Prussia. In the west Heydebreck created a clandestine underground army to which he gave the deliberately punning title of *Wehrwolf*. It acted as a resistance movement to the French occupation of the Ruhr. Many of its members were simultaneously enrolled

in Hitler's SA.

Just how significant was the role of the Freikorps in Hitler's acquisition of power is a matter of debate among historians. Some have seen them as 'the vanguard of Nazism' or 'Hitler's heralds', others have dismissed their role as marginal. There is no doubt that many prominent individuals in the Nazi Party had been one-time Freikorps members, but this is no more remarkable than the fact that many more had been wartime officers. Hitler, like the Weimar government itself, was willing enough to use the Freikorps when it suited his ends, only to discard them contemptuously when their services were no longer required. Once in power the Führer wasted little time in bringing them to heel. On 8 November 1933 (the eve of the 10th anniversary of the Munich Putsch) the flags of the former pro-Nazi Freikorps (Rossbach, Oberland, Heydebreck, etc) were handed over to the safe-keeping of the SA at a ceremony in the Königplatz in Munich. They were never seen in public again. Less than nine months later Röhm had been shot on Hitler's orders along with Peter Heydebreck, Karl Ernst and Edmund Heines (the two latter were both leading members of the Rossbach Freikorps — Rossbach himself was arrested and was fortunate to escape with his life). In an address following this purge of the SA in July 1934 Hitler dismissed the Freikorps as 'moral degenerates... pathological enemies of

the state and of all authority'.

The activities of the Freikorps were in many respects no more than a continuation of the Great War by other means. This was certainly true of their operations in the Baltic States. The Treaty of Brest-Litovsk which had concluded Germany's victory over Tsarist Russia in March 1918 had granted her hegemony over large parts of the Baltic region. Defeated in the West, the army was determined to salvage something in the East. An opportunity presented itself when Soviet troops tried to seize Latvia.

In February 1919 a combined force of German army and Freikorps units, under the command of General Rudiger von der Goltz, arrived in Latvia to assist with the expulsion of the Red invasion. As yet the Latvians possessed no army of their own. A German officer, Major Fletcher, set up a supposedly Latvian Home Defence Force (known as the *Landeswehr*), although half the non-commissioned ranks, and all the officers, were in fact German. On 22 May 1919 the Freikorps cleared Riga, the Latvian capital, of Russian invaders. Freikorps formations of all descriptions including tanks, balloons, and even a small 'air force', flooded into Latvia.

It became quickly apparent that the Germans came as conquerors rather than liberators and a three-way battle then ensued in which the Latvians had to fight both Germans and Russians. In this they were



helped by the Western allies who sent a commission under the British General Hubert Gough. The *Landeswehr* was purged of its German officers, Major Fletcher surrendering his command to a certain Lieutenant-Colonel Alexander (later to win world renown as Viscount Alexander of Tunis). The Freikorps was ordered out of the Baltic, but many chose to transfer their allegiance to the so-called German-Russian West Army of White Russian émigré, 'Prince' Avaloff-Bermondt (a former colonel whose elevation to Field rank and nobility were both entirely self-created!).

A 'German Legion' was formed within the framework of this vagabond force, but when it attempted to recapture Riga it was seen off by the now British-equipped Latvian army supported by a bombardment from guns of the Royal Navy Baltic Squadron. As it withdrew, the German Legion was set upon by vengeful Latvian civilians and nearly wiped out. It was saved only by the Rossbach Freikorps which made a 1,200-mile dash from Berlin to come to its aid.

UNIFORMS, INSIGNIA AND AWARDS

Basically the Freikorps wore ex-German army uniform (even the Naval Brigades were kitted out in field grey). To this they added their own individual arm and/or collar devices. Popular among these were oakleaves or a death's head (former badge of the war-time *Stosstruppe* or assault units). The most commonly worn tunic was the concealed-button *Bluse* of the Great War, but as ex-soldiers made up the major part of the Freikorps, all the diversity of German army uniform (infantry, Hussar, Uhlan, etc) was reflected in its dress. Those who were not war veterans often elected to wear a grey windjacket. Even those who were old soldiers sometimes opted for this, then widely popular, form of dress. This would be combined with either a military peaked cap or a ski cap of the Austrian army variety in either dark blue or field grey.

The cap badge was the national black/white/red rosette often enhanced with a death's head or other device. On their steel helmets some Freikorps men painted a swastika, but this had no connection with the Nazis' emblem, although no one could actually explain its choice! Some formations, especially those engaged in anti-Spartacist actions in the

Reich, wore a coloured brassard on the left upper arm (blue and white in Bavarian units).

Many units devised their own flags. The Brigade Ehrhardt carried the national battle flag (*Reichskriegsfahne*), as did many other Freikorps units, and also Der Stahlhelm.

Although literally scores of medals and other awards were privately created by Freikorps leaders for themselves and their followers, only two ever received official recognition. These were the Baltic Cross and the Silesian Eagle (for service in their respective theatres of operations), each in two grades. Significantly, the Nazis did not recognise the so-called Schlageter Shield (a pin-back badge of which there are three different versions) instituted by an association set up to honour Leo Schlageter (a Wehrwolf member shot by the French for sabotage in the Ruhr) and awarded for, among other things, actions in the Reich against the Spartacists. The association itself was dissolved, on Hitler's orders, in 1935. Perhaps the Nazis (National Socialist German Workers' Party) did not wish to associate themselves too closely with the activities of those armed bands which had once gleefully and mercilessly crushed an uprising by German work-people. The only recognition granted to Freikorps men, apart from the above mentioned decorations, was a certificate issued by the *Reichskriegerbund* (a general association of war, or military, veterans).

Two Freikorps emblems were permitted to be worn on SA uniform. These were for ex-members of the Bund Oberland (an Edelweiss) and the Freikorps von Epp (a lion's head) but even this minor concession was withdrawn before the end of 1934. Former members of Rossbach's SA unit wore, in addition to the normal swastika armband, a black brassard with a white R and two parallel white stripes — this was based on the flag of the Freikorps Rossbach which was of the same design. This practice was forbidden after the purge of the SA and consequent death of Röhm and disgrace of Rossbach.

The only vestiges of the Freikorps which remained once the Nazis were firmly established in the seats of power were to be found in the nomenclature of their para-military formations. Titles such as *Gauführer*, *Gruppenführer*, *Sturmbannführer*, etc, were Freikorps inventions.



Silesian Eagle 1st Class. A pin-back award, black or bronze, colour varies with make.



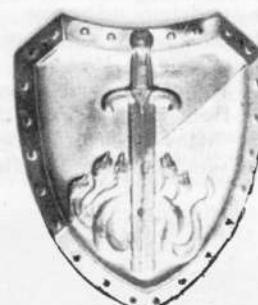
Arm badge of the Brigade Ehrhardt. The original 1919 version has the word 'Wilhelmshaven' in place of 'Ehrhardt'.



Arm badge of the Bund Oberland. Sometimes this was worn on the left side of the cap.



Arm badge of the Freikorps von Epp.



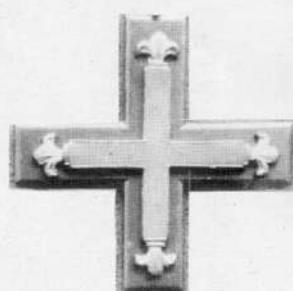
Arm badge of the Selbstschute Schlesien, 1919.



Badge of Wehrwolf. Black and white with red 'W'. Worn on black/red/black brassard. Also featured on its flag.



Freikorps Rossbach. On active service this Freikorps, like many others, wore the uniform of the Great war distinguished only one from the other by an arm badge — here the Hubertus emblem (stag's head with Christian cross) above a red/white/black chevron.



Baltic Cross 1st Class: a bronze pin-back award.

TUNICS

ONE MIGHT reasonably assume that very little, if any cloth fabric has survived from the Roman period, and that much in this area of reconstruction must be left to speculation. In reality, fair quantities of 'Roman' cloth have survived from antiquity; and when supplemented by period art and written accounts, a reasonably accurate picture of the legionary's clothing emerges.

The Roman soldier's 'basic' uniform, and for that matter the basic garment of Roman men in general, was the tunic. Surviving examples exist in both sleeved versions, resembling an oversized 'T-shirt'; and sleeveless types, broad enough at the shoulders so that the falling material creates the appearance of sleeves. The latter type was usually made of two rectangular panels sewn together at the shoulders and sides, allowing for head and arm openings. When belted at

Legio XIII GMV:

Roman Legionaries Recreated (4)

DANIEL PETERSON

CONTINUING, from 'MI' Nos 46, 47 and 49, our series on the Flavian period Roman legionary, based on the practical experience of the Frankfurt-based re-enactment group *Legio XIII Gemina Martia Victrix*, the author considers clothing and footwear.

the waist, the gathering of the extra cloth produced a draping effect which can be seen on Roman soldiers' tombstones.

The rectangular panel tunics of labourers and soldiers (at least those in the lower ranks) had a very large neck opening, allowing them to fall from one shoulder to provide more ventilation and greater freedom of movement when the wearer was involved in strenuous man-

ual labour. When the tunic was worn in the normal manner, the large neck opening was reduced by grasping a handful of material behind the neck, and securing it with a thong. This peculiar knot of cloth behind the neck is confirmed in several examples of Roman sculpture, including soldiers depicted on Trajan's Column.

The oldest tunics of the Roman period in reasonably good condition date no later than AD 135, and were found in the Nahal Hever caves occupied by Jewish rebels during the Bar Kochba rising. They are made of two rectangular panels approximately three feet square, though slightly longer than they are broad. The selvage ends are at top and bottom, requiring only the sides to be hemmed. These are probably very representative of tunics worn throughout much the Roman world in the 1st and 2nd centuries AD.

Tunic colours

The actual colour of Roman military tunics is a matter of conjecture. The most common colour represented in surviving artwork is white, but it should be added that in virtually all of these depictions the soldiers are not wearing armour. As a daily service dress while not in armour, a tunic of natural, unbleached 'off-white' wool is the most sensible garment. These could be procured inexpensively as in any part of the empire; and, in most modern armies where cleanliness is a virtue, standing inspection in white tunics would quickly identify unkempt, dirty soldiers. In actual field service, however — as anyone who has campaigned for any length of time in a chain mail or laminated plate cuirass will know — a white tunic will be reduced to a filthy, rust- and grease-caked rag in short order.

For daily activities in garrison

the legionary's uniform would probably be a natural white wool tunic, girded at the waist with one or two military belts supporting his sword and dagger, and supplemented by a cloak as weather dictated. This is the 'uniform' most often seen in relief carving on Roman soldier tombstones of our period. As it is clear that it would be impossible to keep a white tunic clean under iron armour, it is likely that the legionary possessed a second tunic intended to be worn while under arms, much like the 'combat' versus 'service' uniforms of today. There is some evidence that these 'war tunics' may have been in a uniform unit colour.

In a Legio with its ten cohorts, having the tunics (as well as crests and shield backgrounds) each of a different colour would make unit identification extremely easy — an important aspect to consider on the ancient battlefield. Certainly an army which equipped each of its soldiers better than even the chieftains of most of its opponents had the necessary logistic ability to clothe the soldiers in each cohort of a legion in a different coloured tunic if so inclined. There is considerable evidence to indicate that Roman naval personnel wore blue tunics; and it is established that different coloured tunics and helmet crests in the Byzantine army were used for unit identification. It is well known that many Byzantine military traditions were Imperial Roman in origin.

To return to the Flavian-date army: the theory for uniform identification by colour can be taken even further. Legionaries wearing the laminated plate cuirass also wore a scarf to prevent the plates from chafing their necks. If these scarves were of a different colour in each of the cohort's six centuries, it would even have been possible to instantly identify every soldier in a legion down to the circa 80 man century unit level... Though entirely hypothetical, if such a system was actually employed, besides its practicality, it could answer some other questions as well. For example, on Trajan's Column and other monuments, auxiliary soldiers not requiring scarves for neck protection (since they wore mail instead of laminated plate) still wear them. Was this done only to 'imitate' legionaries, as some propose; or could this have been part of a colour-coded



Grave stele of Genialis, the imaginifer of the VII Raetian Cohort of auxiliaries, now at Mainz; the imago of Vespasian dates his service to the AD70s. Note the curved effect at the hem of his tunic showing below his mail shirt.

unit identification system as suggested?

What appear to be 'sashes' can also be seen around the waists and beneath the belts of unarmoured soldiers on 1st century AD tombstones, one of them from *Legio XIII*. Perhaps this was a way in which 'unit-coloured scarves' could still be used for identification when not worn at the neck with armour?

Even if we dismiss unit colour-coding as a sound but unsubstantiated idea, we are still left with the question of the colour of a legionary's campaign tunic. At one end of the spectrum is the possibility that there was no uniformity whatsoever and the legionary wore whatever coloured tunic suited him. If so, by far the most common tunic colour for armoured soldiers of the classical world is red. This is particularly true in Italy, where red tunics are worn by the majority of warriors depicted in the tomb paintings of Samnites, Etruscans and other Italian tribes. It is also the most documented colour for military tunics in the Hellenistic world. Red is certainly the most 'martial' of all colours, and tends to look moderately clean even when heavily soiled. It also masks rust stains, and perhaps more importantly when considering ancient warfare, bloodstains as well.

The *Legio XIII* group has selected red as its tunic colour as it primarily depicts the legion on campaign rather than in garrison. This is based on the most contemporary colour representation of an armoured Roman soldier dating to the Flavian period. This is the colour rendition of a 'guard' in the 'Magistrate's Court' mural from Pompeii. This soldier has a red tunic, cloak and helmet plume, and silver or iron armour. To the detractors of red and other coloured tunics for rank and file soldiers, this figure is not a guard (which would seem his obvious function in a court) but an officer. I doubt this, because he carries a spear and shield as one would imagine for a sentry on guard duty. Also, the figure has no *pteruges*, indicating that the armour is probably a mail shirt instead of a muscle cuirass.

There is a common tendency among the uninformed to believe that ancient things in general had to be cruder, coarser, and duller than more recent items. The Roman world, however, was an extremely bright and colourful place. The red wool tunics used by *Legio XIII* have been criticised for being 'too bright and finely woven'; yet their weave and colour



Grave stele of Gaius Oclatius, a signifer of North African cavalry. He is shown wearing the familiar paenula, a type of 'pullover' hooded cloak also worn by legionaries. The drapery effect is distinctive: the two sides swept back over the shoulders on each side of a front central seam. The reconstructed Legio XIII favour the simpler, rectangular sagum cloak, which can also double as a blanket, woven in a dark brownish red.

appear virtually identical to an original lightweight red wool tunic of Hadrianic date and alizarin dyestuff from the Nahal Hever caves already mentioned. It is even possible that this tunic once belonged to a Roman soldier, as the Jewish zealots who had hidden in the cave also left behind a number of bronze Roman vessels which Yigael Yadin believes may have been looted from the nearby Roman camp at Ein Gedi, overrun by the Bar Kochba rebels.

CLOAKS

In addition to the tunic, *Legio XIII* employs two of the most common types of 1st century AD cloaks. These are the rectangular *sagum* and semi-circular, hooded *paenula*. Both were definitely used by the Roman army and are portrayed in sculpture and mentioned in literature. Of the two, the *sagum* is the most practical for the group, as it doubles as the legionary's blanket, and all overnight *Legio XIII* events include sleeping in the camp with authentic bedding. Wearing the *sagum* also allows the soldier to display one of the many kinds of *fibula*, which fasten the *sagum* much like a large

safety pin. The cloaks used by *Legio XIII* are either reddish brown or yellowish brown wool in colour. Some display a distinct 'herringbone' weave pattern similar to that in a fragment of cloth excavated at the Roman military site of Newstead in Scotland.

PRACTICAL ADDITIONS

For winter campaigning in Germany, the reconstruction group wears additional clothing. Calf-length, close-fitting trousers of coarse brown wool called *feminalia* are worn, as well as brown woollen tubular sleeves underneath the regular tunic. No archaeological or documentary evidence exists for the later item. If actual Roman legionaries had similar detachable sleeves, there would be no necessity to carry the extra bulk of a long-sleeved tunic; and, eg, the ancient Egyptians did have detachable sleeves for their tunics. Also, the group's experiments have shown that an additional, thick wool tunic could not be worn comfortably under the close-fitting laminated plate cuirass. The tightly, rolled sleeves also take up very little room in the soldier's marching pack.

Even in freezing temperatures this ensemble provides adequate warmth so long as the feet are protected. The naked calves are generally impervious to the cold, though in extreme cold weather long 'barbarian' trousers were no doubt also worn even by legionaries.

FOOTWEAR

The best and largest collections of Roman military footwear were also found in the area occupied by the original Fourteenth Legion. Literally hundreds of *caligae*, the Roman soldier's marching boot/sandals, were preserved in the mud on the bank of the Rhine at Mainz, and most of the group's footwear is based on these finds.

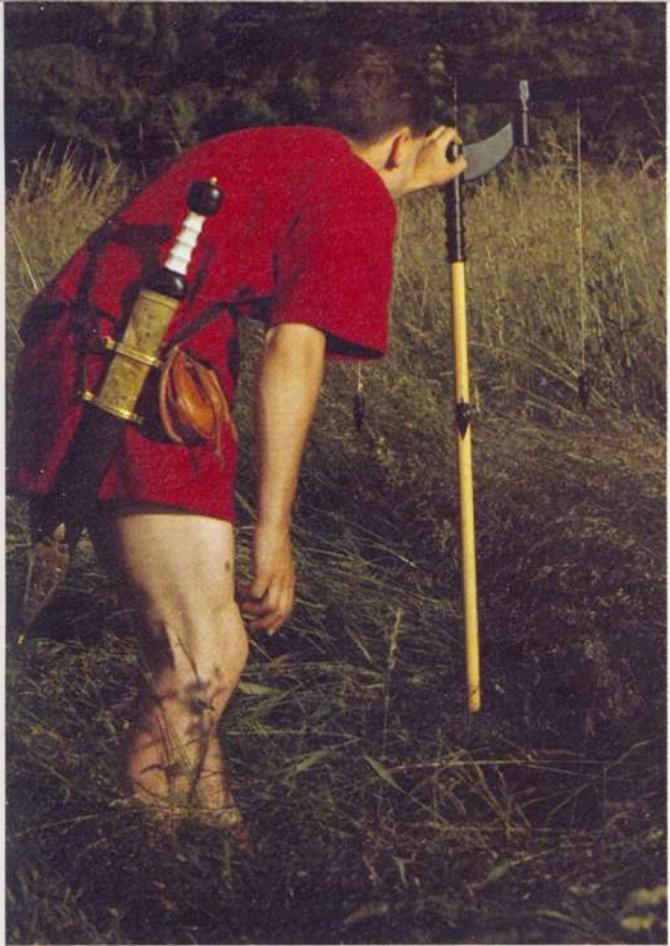
Some of *Legio XIII*'s earliest experiments included long distance marching, so properly designed footwear was of extreme importance. One thing the members painfully discovered was that marching on Roman roads (which had a shock-absorbing gravel surface) is not the same as marching on concrete and asphalt streets. This was learned from a one-day, 25-mile march which left the participants incapacitated from severe impact bruises, as the iron-shod, hard leather soled footwear has no shock absorbing qualities. This was remedied in future marches on modern hard surface roads by the installation of thick sheepskin sole inserts. In winter weather sheepskin or woollen 'socks' are worn inside the *caligae*—and yes, the Romans did have socks, which are even requested from home in an original Roman soldier's letter found at Vindolanda on Hadrian's Wall.

When traversing natural ground or dirt roads, well made, properly fitting *caligae* are unsurpassed for long distance marching. Their open strap-work construction allows the foot to breath, which is one of the greatest shortcomings of modern military footwear. On long distance marches the *caligae* require nearly daily maintenance, replacing the worn-out iron hobnails. The hobnails used by *Legio XIII* are historic artifacts in their own right, being supplies left over from the WWII German Wehrmacht!

MI

To be continued

(See, for further pictures and discussion of all points raised in this series, *The Roman Legions Recreated in Colour Photographs* by Daniel Peterson, Windrow & Green Ltd, £12.95, ISBN 1 872004 06 7.)



Above:
Member of the group acting as a surveyor, using a groma to lay out the rectilinear grid for the night's marching camp. He wears the sleeved type of tunic, and a 'Pompeii' pattern sword.

Top right:
Red has been chosen for the tunic colour of the re-enactment group; this is a subject of much controversy, but partisans of all the different theories rest their cases in the same few pieces of ambiguous evidence. The only clear pictorial representation of an armoured soldier from the 1st century — the much-discussed 'Magistrate's Court' mosaic at Pompeii — suggests that red is at least not anachronistic; and a find in a cave at Ein Gedi, Israel, tends to support this. Tunics have been made in two patterns; the simpler, basically two rectangles sewn across the shoulders and up the sides leaving wide head and arm openings, as here. When belted to gather up the generously loose material this gives an effect noticed on Roman tombstones, where the bottom edge curves up at each side.



Right:
There is sculptural evidence for the tunic neck opening being very wide, the slack being taken up in normal use by the material being gathered and knotted behind the neck. When untied, this size of neck opening allowed the tunic to be worn off one shoulder for heavy labouring duties — again, an effect seen in period sculpture. Note also the metal-shod wooden spade.

Below:
The famous caligae hob-nailed sandals of the Roman soldier; many examples have been recovered from historical sites, preserved in waterlogged ground or at the bottom of wells. They are hardwearing and practical on any shock-absorbing surface like turf or gravel. One of the famous Vindolanda wooden tablets confirms that wool socks were not unknown in the Roman army; and common sense dictates that they must have been worn over sheepskin or similar foot-wrapping in extreme winter weather. (All photographs courtesy the author.)



Royal Scots, 1815(1)

NEIL LEONARD

MUCH PAINSTAKING but rewarding research and labour has gone into the reconstruction of uniforms and equipment for the 1st or Royal Scots Regiment of Foot as they would have appeared at the battle of Waterloo. The Royal Scots are the first Scottish Napoleonic reconstruction group and acknowledge the help they have received from older and more experienced groups as well as museums in recreating their uniforms — here, a private in both marching order and fatigue dress, a sergeant in marching order and, in a subsequent issue, an officer, Sergeant Major and drummer boy.

HISTORY

BEFORE EXAMINING the reconstructions it is appropriate first of all to examine the history of the oldest British infantry regiment, although only briefly. The oldest Scottish infantry regiments are embedded deeply in the traditions of the clan system and, although only faintly, the Royals can trace their roots back to the first Scottish mercenaries who served the kings of France, Germany and Sweden. Scots mercenaries became a permanent part of the French army in 1421; evidence is scarce but former titles include the Garde Ecossais, Gendarmes Ecossais and The Scottish Archer Guard.

From 1625 direct lineage can be traced to John Hepburn who served the King of Sweden, Gustavus Adolphus. Hepburn soon became commander of all the numerous Scottish mercenaries in Swedish service, linking them together under the name of the Green Brigade, and later 'Le Regiment D'Hebron'. In 1633 Sir John Hepburn was commissioned to raise 1,200 men by the Privy Council of Scotland and the Kings' authority in Whitehall, thus establishing the regiment as British and giving it the longest Royal sanction in the British Army. At this date it was called Sir John Hepburn's Regiment. In 1684 this was altered to The Royal Regiment Of Foote; in 1751 to The 1st or Royal Regiment, and in 1812 to The 1st or Royal Scots.

As Britain's oldest infantry regiment the Royals have a long and proud history with many battle honours pinned to their colours. During the Napoleonic Wars the regiment was involved in many of the actions fought by

the British Army and added the following to their list of honours: St Lucia 1803, Corunna, Busaco, Salamanca, Vittoria, St Sebastian, Nive, Peninsula, Niagara and, of course, Waterloo.

At the time of the Napoleonic Wars a British infantry regiment would have one, two, three or even more battalions, but they tended not to serve together. Thus at Waterloo the Royals fielded only one battalion, the 3rd. Each battalion was further divided into grenadier, light and centre companies.

At Quatre Bras on 16 June 1815 the 3rd Battalion The Royal Scots formed part of Picton's 5th Division. It had marched 20 miles, along the baking hot and dusty roads, before forming line along the Namur-Nivelle road, and joining the battle which had begun some time earlier. The light companies of the division soon went forward, skirmishing through the fields of standing corn, as the line went into action. The formation changed many times, to receive repeated cavalry then infantry attacks, clearing the enemy from buildings, and suffering heavy casualties from the French artillery bombardments. The fighting continued until 9pm when the French attacks finally petered out.

On the 17th the French failed to renew the attack and the Duke of Wellington withdrew the army to the ridge of Mont St Jean near the village of Waterloo. On the night of the 17th the hot summer weather finally broke, forcing both French and Allies to camp out in the open with little or no cover from the massive downpour of

The original print by Genty, photo courtesy of the Regimental Museum of the Northumberland Fusiliers, formerly the 5th Foot.



freezing rain. As dawn broke the bedraggled masses struggled to light fires and clean weapons and equipment.

The battle opened at 11.50pm, Picton's Division being subjected to a heavy bombardment and repeated infantry attacks. The division had suffered severely at Quatre Bras and was reduced to approximately 3,000 men. However, it was ordered to advance to stop the attack of D'Erlon's corps, 10,000 strong, which was heading for a gap left in the line by the retreating Dutch Belgians of Byland, who had endured a massive bombardment and finally broke

when they saw D'Erlon's advance.

Picton realised that if the French were allowed to exploit the gap in the line, the whole position would be threatened, so led the advance of his division — which was made up of the Brigades of the Royal Scots, the 42nd, 79th and 92nd (all Scottish Regiments) — to the sunken road running across the front of his position. The French halted at a hedge bordering the sunken road and, as Picton led the advance, he was shot and killed. However, by that time the Union Brigade had been ordered to advance; this consisted of the Royals,

Inniskillings and the Scots Greys.

The Union Brigade cavalry smashed into the oncoming French infantry, legend has it dragging some of the 92nd on the stirrups of the Scots Greys, and cut the enemy to pieces leaving the field strewn with dead and wounded and over 3,000 prisoners for escort to the rear. The Union Brigade hurtled on into the French artillery, where they cut up the gunners and spiked the guns, but few were to survive the attentions of the French lancers and cuirassiers who were unleashed against them.

After the massed attacks of the French cavalry and the repulse of the Imperial Guard, the Allies began a general advance. At this time a young ensign of the Royal Scots by the name of Kennedy had the honour to bear the King's Colour. Earlier, four of the battalion's officers and the Sergeant Major had been killed bearing the colour during the course of the battle. Ensign Kennedy was soon to share the same fate. As he was shot through a sergeant dashed forward to recover the colour but, unable to release the young ensign's grip, he bravely picked up the dead man and carried the body back to the safety of the battalion, in the face of the French — whose officer was honourable enough to order his men not to open fire on the courageous sergeant.

By the end of both Quatre Bras and Waterloo the 3rd Battalion had been reduced from 624 to 363 men.

An Army Clothing Board sealed pattern showing the type of quality and weight, shade, etc., of materials used in the construction of the uniforms of a private soldier.

UNIFORMS AND EQUIPMENT

The reconstruction of the uniforms and equipment began with the symbol of the British Army in the 18th and 19th centuries, the red coat. The private's tunic was based entirely on the pattern which appeared in G.A. Steppeler's extremely good article in *Military Illustrated* No 21. The very first step was to trace the manufacturer of the correct material, material that could be cut and left with raw edges, and would still not fray over time.

That the type of material needed was still produced I was sure, since the modern British Army has a wide range of ceremonial uniforms for Household Troops, officers' and senior NCOs' mess dress, the many and varying regimental bands and so on.

After contacting numerous wool mills all over the country, I eventually stumbled upon the supply source, this being Abimelech Hainsworth of Pudsey in Leeds. Hainsworths have supplied the Army for well over 200 years; indeed, it is the company's proud boast that they have been makers of fine cloth since the Battle of Waterloo. The staff were very helpful and a quantity of fine scarlet cloth was purchased.

The first tunic was reproduced following the Steppeler pattern inch for inch, the final result being a good fit for anyone with fairly short arms and a small 36 inch chest. However, by this time some fragments of cloth from an original tunic had been sent to me by a re-enactor

friend; although from a Crimean War tunic, the shade was almost brick red and the facing colour was a very dark blue, nearly black in colour.

These samples were quickly sent off to Hainsworths in order to see if the exact shade was still produced today. They were very kindly colour matched by Sally Marr from the sales department and amazingly enough, as far as I was concerned, were still produced in the exact shade and weight required for the reconstructions. The actual shades are manufactured to codes, these being T.40 red & T.96 blue.

A new tunic was made up for the reconstruction of the private, but there was a lack of information on the flank company wings. The new tunic was made taking into account the larger measurements of the model, and was beginning to look good, but the wing problem still remained. The answer was provided by the Regimental Museum of the Northumberland Fusiliers. On display in the tower of Alnwick Castle is the tunic of a drummer boy of the Northumberland Militia, circa 1810. This tiny tunic, which would have belonged to a child seven or eight years old, bears flank company wings, which are padded with scraps of wool. The worsted fringe is exactly that and not sheepskin, a trap that many re-enactors fall into. The single strands of wool are clearly visible.

The next phase of the re-construction would not have been possible without the help received from the United

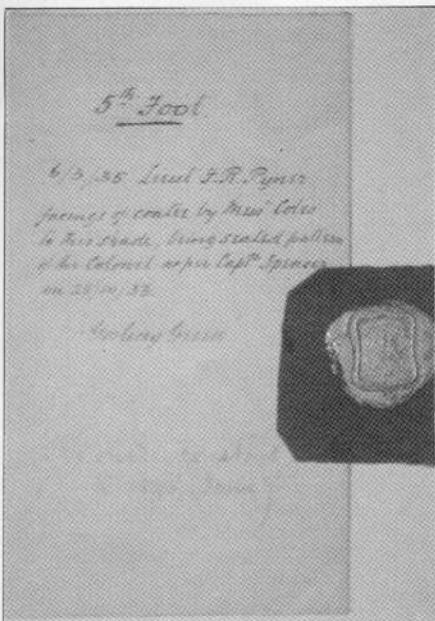
Services Museum in Edinburgh Castle, Scotland. Part of the museum was cordoned off from the public at the height of the tourist season to enable a Plasticine pressing to be taken from an officer's tunic of the period with the correct pattern of button. The pressings were to serve as the basis for a mould, to allow the reproduction of pewter buttons for the other ranks' tunics. Next the museum staff removed another ranks' burnished brass crossbelt plate from its display case and allowed us to embed it in Plasticine, cover it in silicone rubber solution and leave it to set.

On home service the British infantryman would have worn white breeches with knee length black woollen gaiters. On campaign they changed to overalls, which were originally intended to be worn 'overall' but eventually became the main and only form of legwear on service. They would have been worn with a short spat instead of the knee length gaiter. The Leask & McKans 'Records of The Royal Scots' suggest that these spats or gaiters were made of the same cloth as the overalls: 'Trousers grey cloth recommended, with a half garter of the same instead of the present white breeches and gaiters'.

Patterns for the half gaiters were supplied by the 42nd, but tracking down a pair of original other ranks' overalls proved fruitless. Therefore, a pattern was used from the book *The Evolution of Fashion: Patterns and Cuts*, by M. Wormington Hill and P.A. Bucknell. The book

Close-up of the drummer's tunic of the Northumberland Militia. The individual strands of wool are clearly visible, leaving no doubt as to how flank company wings were constructed.

Close-up of the Italian canteen in use with the British Army throughout the Napoleonic Wars, and on until 1875.





This page
Above left:

Rear view of the arrangement of the private's accoutrements in marching order.

Facing page
Top left:

Right-hand view of the sergeant's uniform showing the coarse worsted sash worn over the accoutrements. Note also how his whistle is suspended from the crossbelt.

Above:

A private of the light company adopting the pose from a famous print by Shez Genty during the occupation of Paris. The trotter knapsack can be clearly seen on the left. Constructed of canvas with a wooden frame, it would have been painted with lacquer to keep it waterproof. The regimental number is stenciled in white, and the mess tin is strapped to the rear, covered with an oilskin case.

Top right:

The sergeant from the left-hand side showing the canvas haversack which is based on an original in Carmarthen Castle. It measures 15 x 16 inches with a 2-inch wide strap, 8-inch flap and two metal buttons. Behind this is the Italian canteen. Note also the swagger stick. On his shako can be seen the red cockade of Spain worn under the black cockade of Hanover.

Bottom left:

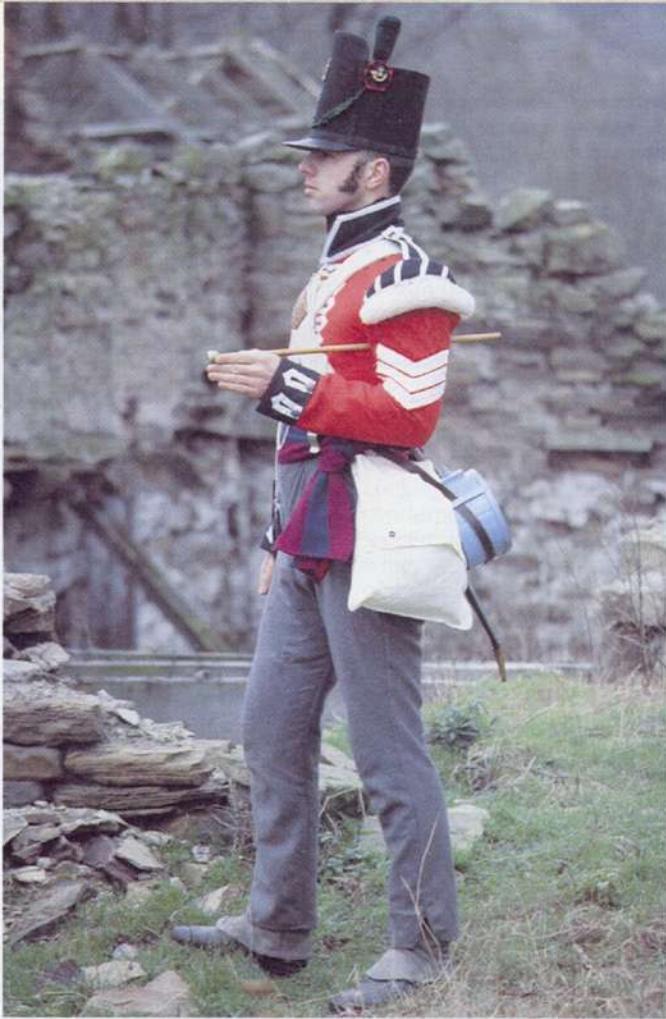
This frontal view of the sergeant omits the crossbelts to show the tunic facings more clearly.

Left:

This gives an idea of the undress uniform. Although there were a variety of undress caps worn, the Hummel bonnet seems to have been the most popular and widespread cap in use by the army towards the end of the Napoleonic wars.

Bottom right:

Rear view of the sergeant's uniform. Note the characteristic wrinkling of the tunic under the arms mentioned in the Steppler article on the redcoat ('M' No 21). The Italian canteen has had its interior coated with beeswax to make it waterproof.



The burnished brass cross belt plate measures 3 x 2 $\frac{3}{8}$ inches. It bears the 'G.R.' cypher and crown in a wreath of thistles, with further thistles, roses and clovers, the Star of St Andrew and the Sphinx plus a scroll with the title Royal Scots. This particular pattern was introduced in 1812 and was replaced in 1816.



contains a number of interesting patterns and notes on the materials used, as well as methods of construction. A fairly coarse and hardwearing mid-grey wool was selected for the reconstructed overalls, with cloth covered buttons and patch pockets under the drop flap at the front.

The headdress of the Royals circa 1815, as with the majority of the infantry, was the 1812 pattern or Belgic shako, often referred to as the Waterloo shako. A report in the records of the Royal Scots on the uniform and equipment of infantry dated June 1811 describes it in the following terms: 'new cap to be made as per pattern submitted. The crown 6 $\frac{3}{4}$ inches in height, the front 3 inches higher, with a black leather peak 2 inches'. The officers' were of black beaver and the men's of felt. The former had a crimson and gold festoon with two bullion tassels; the latter had a white festoon and white tassels (green in the case of the light company).

An order dated 28 December 1814 abolished the brass cap plate for the light company, and substituted a bugle horn with the number of the regiment below. A green festoon and plume were also worn as before by this company. The Royals also wore a red cockade for Spain under the black cockade of Hanover at the left of the shako.

The reconstructed shakos were made after close observation of originals in the United Services Museum, and followed the measurements in the Leask and McKansk notes mentioned above, the red cockade of Spain being retained.

A Sergeant Douglas who served with the Royals in Spain

mentions in his memoirs that the 3rd Battalion, following its distinguished conduct, should be allowed the honour of wearing cut feather plumes instead of worsted. This, however, seems not to have been carried out, thus the reproduced shakos were given worsted tufts.

Fatigue dress or undress uniform was worn for many of the rough duties a soldier could be expected to perform, the jacket being of either white, off white or buff colour, with the regimental facing colour at the collar and cuffs. The reproduced jacket was based on a number of period prints showing ten regimental buttons in pewter and waistcoat type pockets. In some cases research led us to believe that the company shoulder straps, tufts or wings were worn with this garment as in the full dress, but as the main source of information for this was a print dated 1816 appearing in a book by W.Y. Carman, it was decided to leave the jacket without wings.

The undress overalls were based on the pattern mentioned earlier and are described as being made of 'Russian Linen' by the Leask & McKansk notes. Other sources mention a material called 'Russia Duck' for this type of dress. In the end the best we could do was have them made from a hardwearing linen material.

The Hummel bonnet was again reproduced by consulting period prints, although an original still survives in the United Services Museum in Edinburgh, which is believed to have belonged to a Highland regiment. The reproduced item was made with a red central band, blue top and red worsted tuft.

The items of equipment worn

by both the private and the sergeant were all reproduced from patterns supplied by other re-enactors. The only real difficulty encountered was how to waterproof the wooden Italian canteen, as relying on the swelling of the wood proved very unsatisfactory. The solution was found through a reference to soldiers pouring boiling beeswax into the canteen and allowing it to swirl around the insides until all of the surface area had been coated. This seemed to work well enough and gave the water a pleasant taste of honey as well.

The uniform worn by the sergeant followed the same lines as that of the private except that the material used was of a brighter scarlet than the dull red of the common soldier. The Wyedean weaving company had supplied the lace for the private's tunic but, according to the dress regulations of the Royal Scots, the sergeant was to have lace of white silk, an honour shared with the 42nd, unlike the rest of the line regiments whose SNCO lace was of white worsted.

The sash worn is based on one in the regimental museum of the Royal Scots and is made of crimson worsted with a central blue line. It is described in the Leask & McKansk notes as being made of very coarse worsted, being badly dyed. The only other distinction worn by the sergeant of the light company would have been his swagger stick and the whistle carried on a chain from the cross belt. Instead of the pike which would have been carried by the sergeants of the remaining companies, the light company sergeant carries a musket.

The BMSS Annual Competitions

QUESTION: What have Vlad the Impaler, a scarlet woman and a Battle of Britain Pilot got in common?

ANSWER: All three won awards in this year's British Model Soldier Society Annual Competitions on 11 April.

For many UK military modellers there are two highlights in their year, to be looked forward to with eager anticipation and then savoured and relished. One is the forthcoming Euro-Militaire which takes place at Folkestone over the weekend of 26-27 September. Now in its seventh year, it is firmly established in the modelling calendar, attracting enthusiasts from far and wide. The other is the aforementioned Annual Competitions held in Wandsworth, South London. Like Euro, this event brings together an impressive range of modellers from all corners of the British Isles as well as visitors from further afield, many of whom have spent the winter beavering away on their latest creations to enter in one or more of the 32 classes that make up the show.

And as the trade's presence is an important element in the proceedings, there's also the chance, of course, to stock up on the latest products that you hope to be able to sneak home while your other half is looking the other way! This year there were 22 trade stands but, no doubt due to the continuing recession, fewer new commercial figures were being launched. The same economic problems were possibly also responsible for the fact that there appeared to be rather fewer entries on the competition tables. Even so, over 300 were submitted for the judges' scrutiny. This figure explains why once again our report can only scratch the surface of the show.

As soon as one began to examine the pieces it was at once obvious just how dramatically standards have advanced in the last few years, many of the top names managing to surpass even their previous superb standards.

So what of 'Vlad the Impaler'? Well, this 54mm figure by Peter Jones was placed second in the Faulkner Mediaeval Trophy (for figures representing the period AD1051-1485). Vlad stood on

very nicely handled snow-covered ground, a fur cloak around his shoulders. Painted in muted colours, the model was a delight and, in spite of its subtlety, immediately caught the eye. However, the winner of the class was a superb mounted warrior, 'Tamerl-Lenk', by **Dave Jervis**. The beautifully painted black horse was set back on its haunches, as the rider came under attack. A delicately modelled but lethal-looking arrow had thudded into his shield while another had just pierced his right arm, his sword in the act of falling from paralysed fingers. All in all a worthy winner, set off to perfection by some superbly textured groundwork.

As for the scarlet woman, she in fact represented a 'Volunteer of the East India Company 1799' and took the Wendy Dilley Award (for female warriors, auxiliary, regular and civilian aid personnel) for **Gill Watkin-John**. Like many modellers, I am frequently amazed how some of our number can see the possibilities for conversions in the most unlikely commercial castings, as was certainly the case here. Based on sculptor **Roger Saunders'** grim-faced and forbidding Belle Starr from his new Wild West range, this was an absolute beauty! She was dressed in a scarlet cut-away double breasted coatee with royal blue facings, gold lace and a single gold epaulette with bullion fringe. The hem of her long scarlet skirt brushed the ground, while her black brimmed hat sported a white over red plume and her fair hair was drawn back in a fetching bun. An altogether elegant, attractive and unusual subject from what at first glance could seem an unpromising source.

It was **Gary Joslyn's** 'RAF Pilot 1940' that took first prize in the MMSI Award (for new single foot or mounted models, any period, from previous BMSS National Competition winners). In casual pose, with flying jacket over his shoulder and standing beside a 'scramble' alarm bell, it captured perfectly the nonchalant air of 'The Few'. Second in the class was a large scratchbuilt 'U-Boat Captain' by **John Runnicles**. In typical boots and polo-neck sweater, he leant against a section of harbour wall, on top of which was draped his coat and gloves.

There were 16 entries for the Blythwood Memorial Trophy (for flat figures) including 'Nulli Secundus' by **Mike Creese**, which consisted of a framed presentation of nine scenes

from different periods of the history of the Coldstream Guards. A nice idea well presented and worthy of the third place it received. However, it was **Jim Woodley** who took the top two places, the first prize going to the 'Banner of St George of Burgundy', the three-dimensional effect achieved in the painting of the banner being quite incredible, while the caparisoned charger was absolutely superb.

The Airfix Trophy (for plastic figures, original or converted, by any manufacturer) had a number of eye-catching entries. 'Diving on HMS *Thetis*, June 1939' by **Barry Porter**, showed a detail of the attempted rescue of the submarine *Thetis* from the deck of HMS *Tidworth*. A diver is being de-

on the Airfix Life Guard figure and the Skinner's Horse mount, the resultant model of this sergeant of the Scots Greys was a marvel, the dappening on the horse and its brilliantly executed harness and saddlery all contributing to a memorable piece.

A name I feel sure will be appearing among the prizewinners for a long time to come is **Eric Hildrew**. His 'SAS, Malaya 1957' really stood out in the Alan Clayton Trophy (for single figures by junior members). Just 14 years old, Eric produced a figure that would hold its own in most companies. The olive green jungle clothing was beautifully represented as were the pouches, pack, poncho and bush hat. The pose said it all, too, capturing perfectly the sol-

class was one of the jewels of the show and provided **Keith Engledow** with another justly earned trophy. One of the hallmarks of Keith's work is the amazing and delicate detail he incorporates in his vignettes and 'Timurids c1400' was a perfect example. It showed a mounted warrior shading his eyes while a footslogging soothsayer points into the distance. There was just so much to take in here — a chicken cooking over a camp fire, an overturned pitcher from which seeped a growing pool of red wine, while the figures were quite brilliant. The bearded soothsayer stood, pot-bellied and resting on a stave from which were suspended two minute leather wallets, presumably containing magic charms



Heroes of the Alma, 'Lindsay and Thistlethwayte' were created from Airfix Africa Korps and American Marine Multipose pieces.

briefed on deck amidst the clutter of spanners, hose, laid out diving suit and a bucket half full of water. Decking, rivets, everything, is reproduced with loving care and beautifully finished, down to the matelot bringing a mug of steaming tea to the diver, so it was little surprise that the presentation gained third place for its creator. One that failed to catch the judges' eye was a most unusual 'Egyptian Infantryman' by **Keith Engledow**. Feet astride, clasping a hide shield in one hand and a spear in the other, with a wicked looking sickle at his belt and the characteristic striped pale orange and white head-dress, this was a simple but superb figure. However, it was another beautifully handled conversion that took the trophy. 'Ramage VC' was one of **Adrian Bay's** Crimean heroes. Based

dier on jungle patrol, exhausted but alert.

The Historex Trophy (for Historex figures and conversions only) has traditionally been one of the classic classes, but sadly this year, entries were few in number. However, there were two at least that would certainly stand comparison with the vintage years. The one that came second was 'Ottavio Piccolomini, Habsburg General c1630' by **Martin Livingstone**. This was of a fabulous portly figure, mounted on a bay, and every inch a general. His fur edged topcoat, delicate gauntleted hands, high boots and waist sash flowing out behind him, had all been beautifully modelled, as had the elegant horse's head which had, I feel, had a lot of work put into it.

The winner of the Historex

or fetishes, while over his shoulders was draped a long, tattered cloak. Added to this the decoration on the horseman's bowcase/quiver was awe-inspiring as was his armour.

Keith also won the Ancients Trophy (before AD1050) with his 'Assyrian Infantryman 655 BC'. Carrying a spear, peering over his shield as he cautiously descends a hillside, this figure was encased in body armour and laced leather leggings over some form of brightly striped pantaloons. A really delightful figure that once again proved it is not the size or complexity of a model that wins prizes, but purely quality. 'The Briton' by **Peter Jones** was another nicely conceived model which came third. The bearded tribesman, with long dark hair, crouching with his back to a rock, was depicted in the act of half-draw-



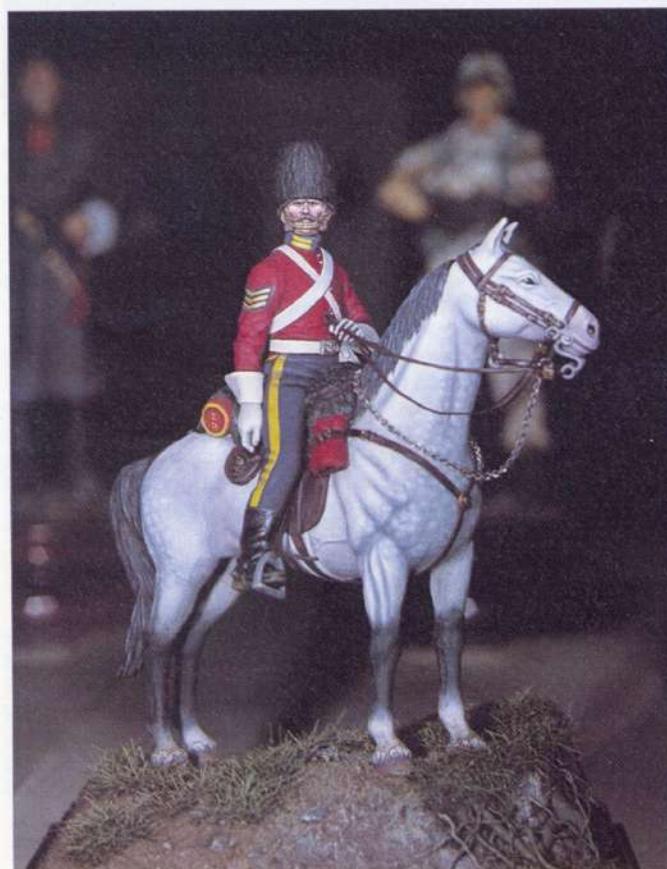
Keith Engledow proved himself equally adept with large-scale conversions when his 'Turkoman Leader' was placed second in the John Edgecumbe Memorial Shield.

'Ramage VC', winner of the Airfix Trophy, provided Adrian Bay with one of his five top prizes.



The imposing 'Hussar 1810' was selected as the best entry in the Harris Equestrian Trophy.

A soothsayer points the way in Keith Engledow's 'Timurids c 1400' vignette which took the Historex Trophy.



ing his blood encrusted blade from its scabbard — another simple little piece that was charged with drama. However, it was the second placed entry in this class that was, for me at least, the star of the whole show. A brilliant conversion of a Historex Academie figure, 'Adrianix the Celt' by **Adrian Bay** was a terrifying bare-chested warrior leaping over a fallen log. The helmet, shield and rippling muscled torso were superb as was the treatment of the screaming face, the tattooing, his mauve and black checked pantaloons and the fallen tree. (See 'MI' 49, p29.)

Pete Watson from Sunderland came second in The Colonial Cup (for British Regular Forces in campaign dress, Colonial wars 1850-1902) with a very nicely painted 'Grenadier Guards Camel Corps' — the classic David Grieve figurine painted in beautifully muted, dusty colours, the camel in particular being exceptionally well shaded and the textured ground-work providing a perfect setting. The class winner was yet again **Adrian Bay** with another really creative conversion. The kilted 'Lt Crowe VC' was depicted relaxing during a game of croquet, his mallet propped against a low white picket fence, a ball and hoop at his feet. His swarthy bearded face, white jacket and tartan waistcoat had been superbly rendered — and all this from the Phoenix Victorian fishmonger!

Tartan was much in evidence, of course, in the Under Two Flags class (for Scottish regiments only) as was **Adrian Bay**, winning with 'Ewart of the 93rd' which had received a silver award at last year's Euro-Militaire. But for painting perfection his second placed 'Tartan Terror', a straight Tiny Troopers Crimean figure, was an absolute smasher, the sombre Government sett superbly achieved with his chosen medium of matt enamels. (See 'MI' 49, p30.) Third place went to **A. Hotching** with a 'Private of the London Scottish 1918', a very nice conversion of a Thistle Miniature, trudging through the mud, Lewis gun over shoulder and pipe gripped between his teeth. It was especially good to see the subtleties of khaki so effectively reproduced.

Another outstanding modeller who once again came good this year was **David Hunter** taking the Reavely Moderns Trophy (for figures on active service, 20th century

Every inch a general is 'Ottavio Piccolomini', Martin Livingstone's majestic Historex conversion.

Photos by BMSS official photographer Derek Crook

campaigns) with one of his impressive dioramas, 'Desert Barter'. An early model 'Priest' of the 11th RHA is drawn up close by a water hole while an RSM of the Highland Division, his upturned helmet overflowing with Woodbines, attempts to strike a bargain with an arab boy whose camel is laden with oranges. All around are scattered ammo boxes, jerry cans and all the other litter of a modern war.

The Harris Equestrian Trophy (for mounted troops of all nations) had, as always, some masterly examples of equine modelling. You could almost hear the dislodged shingle as **Dave Jervis's** 'Parthian Horse Archer, 4th century BC' on his light dun mount, slithered down a steep incline. His opened-mouthed, moustachioed face and exquisitely decorated clothing in subtle shades of mauve certainly warranted its second place. There were also two large-scale Napoleonic cavalrymen that literally dominated the class. A 'Trooper, Elite Company 5th Lancers 1812' and a 'Hussar 1810' were both mounted on magnificently painted steeds, but it was possibly the faultless rendering of the lace and slung brown pelisse on the hussar that persuaded the judges to award the trophy to **Peter Robinson**.

And it was Peter Robinson who entered a soon-to-be-released 120mm Verlinden Zulu in the Gottstein Cup (for single figures). Although unplaced, this magnificent figure had been marvellously painted in oils, the skin tones, shield, looted infantryman's frock and Martini-Henry being



of a tremendously high standard. **Paul Melton** came second with a 'Spanish Pikeman 1498' which was another first-class example of the figure painter's art, treatment of the leather jerkin and vertically striped pantaloons being of a particularly high order. But it was **Martin Livingstone** who 'got the Gottstein' with 'Streltseky Sotnick Regt. Vasily Bychostov 17th century'. With a title like that one is scarcely surprised at the look of disdain and the elegant, arrogant pose of this miniature masterpiece! In a long dark green coat and with arms folded across his chest, the highlighting and shading of this piece were outstanding.

The John Edgcumbe Memorial Shield (most ingenious figure conversion in any medium) saw what seemed quite a departure for **Keith Engeldow** — a large-scale conversion of a 'Turkoman Leader', but with all the brilliance of his small-scale work. This fearsome figure was clambering up a hillside, screaming at the top of his voice and wielding a long-hafted axe. On his other forearm he carried a beautifully detailed shield while his chest was protected by individual scales of armour and a long pigtail, bound with white ribbon, hung down his back. However, the class winner, **N. MacGowan**, had prepared a most striking presentation of a 'Poilu, 1916'. The figure stood in glutinous mud, absolutely laden down and festooned with equipment and was displayed with a framed sepia photo of the actual individual which Mr MacGowan had appropriately obtained in Verdun!

The final class I have space to mention is the one that contained what was, in effect, the Best of Show as it took not only its class but also the President's Medal. Once again **Adrian Bay** was the recipient, this time of the Robert Gould Trophy (for groups of figures, any period) with 'Lindsey and Thistelthwayte', the two ensigns of the Scots Fusilier Guards at the Alma — a fabulous vignette in which the painting of the tattered colours was absolutely breathtaking. Second place here went to **Roy Porter** for 'Guarding the Mint, RAF Uxbridge 1922' and showed Aircraftsman Ross (alias Lawrence of Arabia) as part of the Quarterguard with the Guard sergeant dressing the ranks. This was a super model, each figure very much an individual with even the peaked service caps coming in all shapes and conditions.

This year's judging, under the watchful eye of the new Chief Judge and internationally acclaimed modeller **Mike Thomas**, was performed with great smoothness and efficiency and seemed to suffer from hardly a hiccup. Overall it seemed to me that top names dominated the show rather more than in recent years, but the stimulus and tremendous incentive their work provides is what sends us all away striving harder than ever to achieve higher standards in our own efforts. But for me the greatest pleasure that the Annuals always brings is the renewal of old friendships and the forging of new ones. And that surely is the best of all reasons for looking forward to Folkestone!

John Regan

BRITISH ARMY MANPACK RADIOS, 1940-45

INTRODUCTION

BY 1901 MARCONI had bridged the Atlantic with his rapidly developing invention, but it was to take many more years of finance and effort before wireless reached the forward troops of the British Army. This article is not intended to discuss or record the development of wireless in the British Army. It is sufficient to mention that no apparent effort was made until 1936 to develop and provide a lightweight, manpack type wireless set capable of providing communication between the soldier at the sharp end and his nearest 'higher echelon'.

Although the threat of war grew stronger from 1937, no set had reached production by the outbreak of war in September 1939 and I have yet to meet a regimental signaller who saw any signs of an infantry wireless set in the BEF.

RESEARCH, DEVELOPMENT AND PRODUCTION

In late 1936 authority was given for research and development work to be started on a wireless set for infantry use. It had to be light enough for one man to carry, use small current consumption from dry batteries, and be simple to operate.

LT-COLONEL A.F. AUSTEN, MBE, BEM

TODAY, WE TAKE the miracle of mobile telephones almost for granted. In 1940, it was a very different story, and the BEF in France did not have a single man-portable radio. A number of different designs were rapidly introduced afterwards to enable the troops at the 'sharp end' to keep in contact with their company, battalion or brigade headquarters. They were, however, heavy, cumbersome and regarded as unreliable although, as this article shows, this was often the fault of their operators rather than the sets themselves.

By 1939 the Signals Research and Experimental Establishment came up with the Wireless Set No 8 and Colonel A.J. Leahy, at the time Chief Instructor at 152 OCTU, remembers receiving ten prototypes that year. They evidently did not impress and did not go into production.

The British radio trade had, for some years prior to 1939, produced portable radios, and now used their knowledge to good effect. Pye produced a transceiver named W.Set No 18 which became the mother of them all. Manufacture started in 1940 and by 1943 had reached a total war production of 76,000. It spawned a number of 'lookalikes': No 48 made in the USA; No 58 made in Canada; No 68 in three versions, P, R, and T; and W.Set No 38 (which was based on the

No 18) in 1943, which outstripped them all with a total wartime production of 187,000.

With the growth of Special Forces and amphibious operations, and with a former Fleet Wireless Officer as Chief of Combined Operations, the improvement of wireless communication was given every encouragement. Planners for the big assault landings soon decided that a manpack portable set of greater range and reliability was required and Major (later Major-General) Cole devised the W.Set No 46 which met all the requirements. It was given priority and was available for the North African invasion in November 1942, reaching peak production with a monthly average of 2,500 and a total war production of 24,500.

ROLE AND DESCRIPTION

The first short-range manpack sets were intended for infantry use, but were soon adopted by Royal Artillery FOOs and, from 1940 onwards, by Special Forces. The sets were intended to provide reliable communications over short distances, and to provide the users with a number of channels which could be used on a net. Put more simply, to make it possible for the battalion commander to talk to or send a message to all of his platoons at the same time. And of great importance, they had to be one-man-portable and simple to use, as they would be required in such numbers as to make special training courses impossible.

Wireless Set No 18

This was a self-contained sender and receiver in a pressed steel case fitted to a rucksack frame secured to the body with webbing straps. The control panel was at the front and made accessible by hinged metal flaps. When mobile, rod aerials were used, 12 one-foot sections being fitted on the case. A wire aerial was used in the ground role. The 'Battle Battery' provided all power in one pack and was housed in the set case. The set provided morse and speech, with up to 18 channels. Two pairs of receiving headgear, microphone, morse key and ground aerial were carried in a webbing satchel. Dimensions of the set were 8x10x17 inches with an overall weight — set, batteries and satchel — of 34lb.

The 'netting' facility referred to above was effected by a plunger switch on the sender panel. The chosen frequency channel was transmitted by the selected 'control' station to which other stations on the net could tune their sets. Any set could then communicate with others on the net, including control.

Having switched the batteries' switch 'ON' and tuned 'SENDER' and 'RECEIVER', 'SEND-RECEIVE' switching was effected by pressing or releasing the Pressel switch in the microphone handset. When using CW (morse), a 'Send and Receive' switch embodied in the key and plug assembly was used.

The No 18 Set made an early appearance on advanced assault courses at



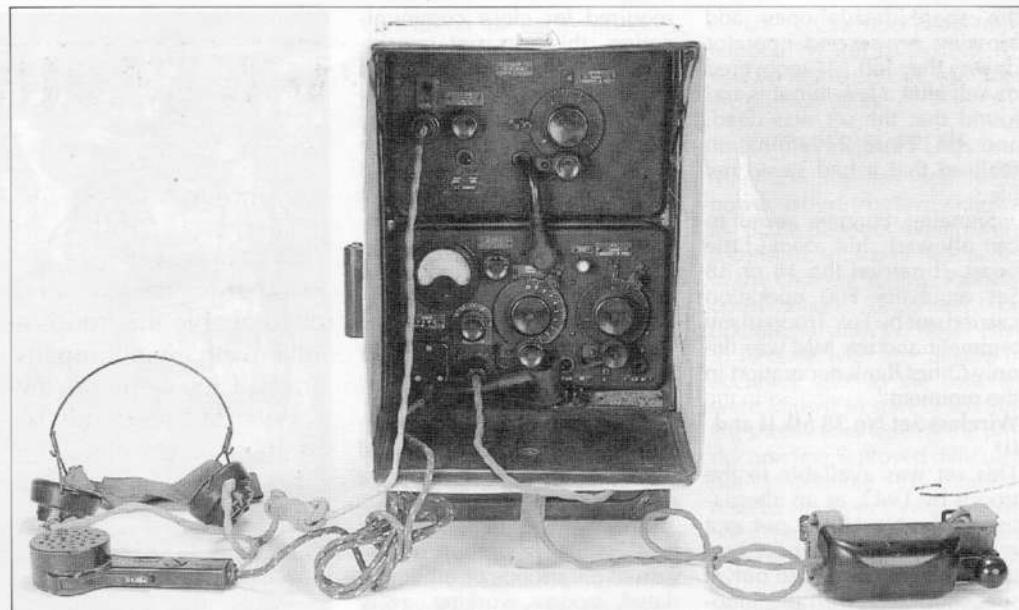
A New Zealand officer probes forward south-west of Gazala in December 1941 with his personal bodyguard and two signallers, the first of whom is carrying a W.Set No 18 with its rod aerial extended in the horizontal position. The men wear '37 Pattern webbing equipment and are armed with No 1 SMLE rifles with the long bayonet. (IWM/E7234.)

the Special Training Centre, Lochailort, where the 'new' methods of warfare were being taught. These courses were attended by infantry officers and NCOs from Home Forces battalions, together with Special Forces and Missions, which effectively introduced the set to the Army. Signallers reluctantly accepted their heavy and uncomfortable burden — they really had no option — but its weight (the equivalent of two Bren guns) and hard bulk in the small of the back made for unpopularity.

Alan Candler trained as a regimental signaller at the Infantry Signal Training Centre, Aske Hall, N. Yorks, and later went in for advanced signal training with the Royal Warwicks at Horncastle, Lincs, which included a 'baptism of fire'. He then fought with the Signal Platoon, 1 South Lancs, from Normandy to Bremen, which left him with clear memories and mixed feelings of those many miles carrying a No 18 set, which was weighty and awkward in manoeuvre and particularly susceptible to interception when in close proximity to the enemy.

At Delmenhorst in Germany, Candler's luck ran out at a crossroads when a shell from a Tiger tank burst overhead, 'taking my aerials away and with them my sight and hearing for three days'. In September 1991 he wrote to record his lasting memories of his service as a regimental signaller and W.Set No 18 operator. 'What always struck me was the fact that a rifleman could always go fully prone during sniping/shelling whereas the signaller, due to the burden of his 18 Set, could only crouse.' But he ends with the tribute: 'On the whole the set did a good job and was far better in performance than the No 38'.

The Forward Observation Officer of a Royal Artillery Field Regiment is not the type of man who prefers a quiet war. With an artillery signaller operating a manpack No 18 or 38 Set, he was usually found in the most forward position he could occupy with minimum safety so that he could locate targets and pass such information that would enable his gunners to place their shells with maximum accuracy. So a lot depended on his signaller, and Gunner Signaller George Hughes, MM, set a fine example of this partnership carrying his W.Set



W.Set No 18 Mk III. This shows the set only, without carrying harness. Olive green case, brown canvas waterproof hood. The receiver unit in the upper case is connected to the transmission unit in the lower case by a four-point plug and cable. All connectors and controls are clearly defined on metal plates. The Battle Battery compartment is at the base of the set. On the left are the headphones and Microphone, Hand, No 4, and on the right the key and plug assembly. Send and Receive switches are embodied in both the microphone and the key. On the outer casing of the sender unit is a black bakelite rod aerial socket. (Royal Signals Museum.)



W.Set No 38 Mk II, housed in a steel case and fitted with green webbing equipment carrying case. On the left is the Junction Box No 2; in the centre, the Microphone, Throat, No 2; and on the right, Headphones DLR No 2 with canvas headband. Battle Batteries were carried separately in a webbing haversack and rod aerial sections in a canvas case. (Royal Signals Museum.)

No 18 on every FOO controlled shoot fired by his regiment in the Normandy campaign.

He trained as a signaller at a Royal Artillery Signal Training Centre, 'where I was taught to use semaphore, lamps signalling and how to lay field cable with a crookstick. We moved on to the sophistication of the No 18 Set and learnt to send and receive Morse code at 12 words a minute, all of which qualified me as an RA Signaller.'

D-Day was approaching and many long hours were spent on waterproofing almost everything that moved, but Hughes was blessed with a dry

landing on a concrete 'hard' at Arromanches, Gold Beach — his unit being 126 Field Regiment RA, of 59 Infantry Division. After taking part in the battle for Caen, he arrived at the River Orne near Gourillieres to find the bridge blown, which meant a very wet crossing. The river was deep and 'my small stature did not enhance the situation. I dropped into the water holding the 18 Set, my Sten and ammo on my shoulders, arriving very wet but safe on the other side. Next came a 20-yard dash for cover, where I netted my set and waited for the infantry to form up and

attack as the opening barrage had been registered and the guns awaited the codeword 'Cowshed'. At this point I welcomed the arrival of my long delayed second operator. Switched on, microphone in hand and led by the Troop Commander, we started a half-mile climb through wooded hills. After about 200 yards the enemy spotted us and let fly with very accurate Nebelwerfers. The piece that was meant for me, a piece of shrapnel that could easily have sliced through my spine, embedded itself in the 18 Set battery box at the bottom rear of the set, cutting the lead to

the spare headphones and blowing my second operator down the hill. I recovered myself after a few minutes and found that the set was dead, and on closer examination realised that it had saved my life.'

Signaller Hughes asked to be allowed his own little boast. 'I carried the 18 or 38 Set on every FOO operation carried out by Fox Troop of my regiment and my MM was the only Other Rank decoration in the regiment.'

Wireless Set No 38 Mk II and II*

This set was available to the troops by 1943, as an alternative to the No 18 but not as a replacement. It was based on the No 18 but provided only a speech facility with the innovative 'Microphones, Throat, No 2' replacing the hand-held microphone. This was really appreciated—every soldier in or out of action has felt that urgent need for two free hands. It was rumoured that it was originally boffin catalogued as a 'Laryngophone' but changed to microphone after seeing a draft catalogue with the new item listed with musical instruments...

The complete station, set, rod aerials in webbing case and headgear, spare battery and Junction Box No 2 in Satchels Signal weighed in at 27lb (12.5kg), 2.4kg less than the No 18, and it was reasonably rainproof. Powered by dry 'Battle Batteries', it could also be powered by the Power Supply Unit No 5 which is described separately later.

The second innovation, considered important enough to have an illustration in the working instructions, was the facility to use the set as a sound powered telephone. Captain (later Lieutenant-Colonel) Terence Skelly, at the time Signal Officer of 3 Commando fills the gap, literally.

'In Normandy our lines from Commando HQ to Troops were always being cut by enemy mortar and shell fire or 'friendly' tracked vehicles. In 3 Commando we had a drill that as soon as a line went 'dis', we disconnected it from its telephone and put the ends of the line at each end into the aerial sockets of 38 Sets, tuned to the same frequency. Although out of range of the normal 38 Set, this 'wired wireless' used to work, using the broken ends of the line as a ground aerial, and jumping the break.'

The range was limited to a normal four to five miles but, as this type of set was only

required for close communication, this was not considered a handicap and its reduced weight, easier operation, and manoeuvrability made for popularity with the operator. It topped the No 18 with a war production of 187,000.

Wireless Set No 48

This was manufactured in the USA and no production figures are available, nor can any trace be found of its use by British troops.

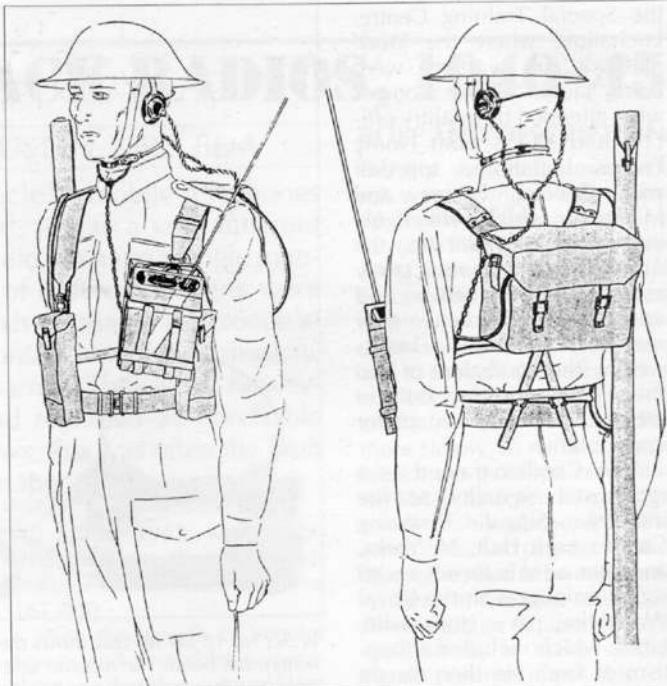
Wireless Set No 58

This was the Canadian version of the W.Set No 18, designed for the same role: 'Short range telephony in forward areas, primarily for inter-battalion use' with the addition of 'the use of paratroops or other isolated troops working away from their HQ'. The Operating Instruction Manual was published in Ottawa in 1942. No CW (morse) facility was provided and the manual seems to emphasise the set's use in a ground role with much information on the use of aerials. A range of five miles was claimed. Power in the mobile role was provided by a dry 'Battle Battery' and, in the ground role was provided by a Vibrator Power Unit. Housed in an aluminium case which made a considerable saving in weight (17lb or 8kg), the Vibrator had to be carried by a second man and was still heavier than the set. It was produced by Addison Industries but there are no production figures or records of its use by British units.

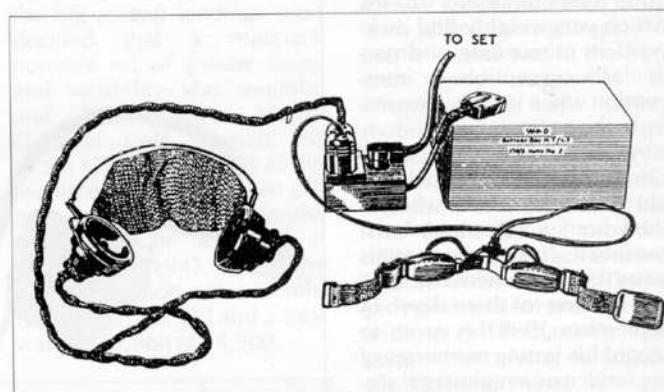
Wireless Sets No 68 P, R and T

The last of the No 18 Set 'family', the three P, R and T sets were based on the design of the original and differed only in minor technical details. In addition to the technical changes, the 68 T was intended for tropical use and components had been specially treated, or 'Tropicalised'. Working instructions were issued in July 1944 and the set, backed by the No 38, was used by 48(RM) Commando during the Walcheren landings in November 1944.

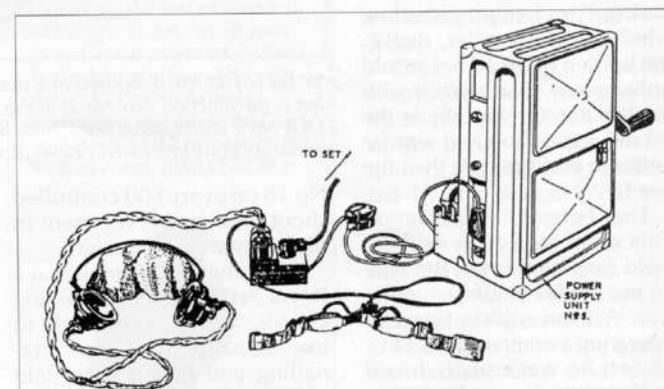
Patrick Churchill was a Royal Marine signaller attached to No 6 French Troop of 10 (IA) Commando, in turn attached to 4 Commando for the invasion of Walcheren. They were given the task of assaulting and capturing Flushing. The operation was codenamed 'Infatuate II', with D-Day 1 November 1944, and the communication net was to use W.Sets No 18, 38 and 68. Training for the operation was



Two drawings showing how the W.Set No 38 was worn: on the left, in the normal, mobile, position, and on the right, for when lying prone or crawling. In both these modes, normal equipment waist belt and one Bren pouch are worn.



The junction box connected up to a Battle Battery — WD Battery Dry HT/LT — for use with the No 38 Set.



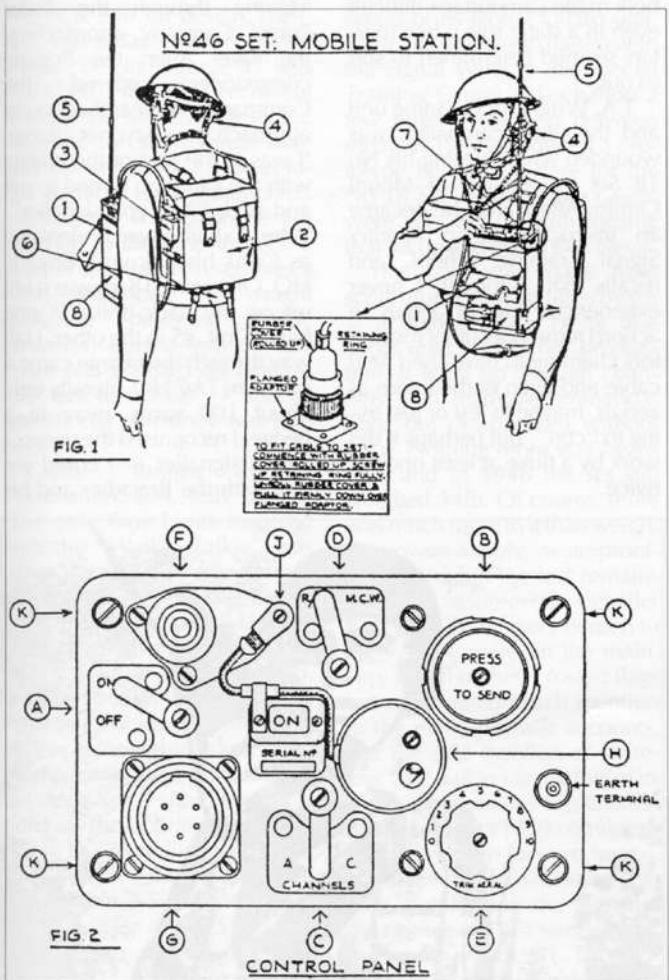
Power Supply Unit No 5 as used with the W.Set No 38, showing the Headphones DLR No 2 with canvas headband, Microphones, Throat, No 2 and Junction Box No 2.

carried out on the sand dunes near the town of De Haan in Belgium and included a good deal of long distance marching with maximum loads. The cross-country marches involved quite a bit of dyke crossing and Patrick recalls, 'I

came to one of these dykes and decided to jump across instead of wading, but underestimated the weight I was carrying, landing short and much more soaked than my comrades. The set, surprisingly, still functioned.'



Members of French Troop No 10 (IA) Commando equipped with W.Sets No 46 prior to embarking for Normandy in June 1944.
(IWM/H39036.)



No 46 Set Mobile Station. Key: 1 Sender-Receiver unit in carrier. 2 Battery carrier. 3 Junction box. 4 Microphone and Receiver Assembly No 5. 5 Aerial Rods. 6 Normal infantry belt and braces. A On-off switch. B Press to send. C Channel switch. D R/T-Morse selection switch. E Aerial trim control. F Aerial socket. G Six-way plug to batteries, headphones and microphone. H Dummy aerial. K Screws holding panel to case.

Wireless Set No 46

The big technical breakthrough for users of manpack-type wireless sets came in 1942 with the

introduction of the W.Set No 46. It was issued to units for use on special operations and was supposed to be handed back on

conclusion of each mission*. This was wishful thinking and in my experience many of the sets moved freely between users as required and it was some time before they came under control of the higher echelons.

Corporal (later Captain) Gerry Little landed with 1 Commando Brigade Signals early on 6 June 1944. He was, strictly speaking, an Instrument Mechanic not an Operator, but remembers taking over the 46 Set from a wounded Signalman McGregor and using it to report his progress to Pegasus Bridge. And Terry Scully, then Signals Officer of 3 Commando on the D-Day Landing, recalls: 'As we had no rear link communications I visited 6 Airborne Div and bumped into the CR Signals. I told him of my problem and he produced two 46 Sets from a container and we tuned them and he kept one and I returned up the road with the other to 3 Cdo HQ to inform Peter Young (later Brigadier) that we now had communication with 6 Airborne HQ. We did not like using the 46 Set near or behind enemy lines as it could give off the most dreadful squeaking noise which could attract unwelcome attention.'

The set was waterproofed against one minute's immersion, provided three alternative channels on speech or morse, was crystal controlled (no tuning) and was a truly Combined Operations set with range achievements from the worst at two to four miles up to 50 miles at best, land and sea. It could also be used ground-to-air with, of course, wide variation.

The manpack, mobile station comprised the following: sender/receiver unit mounted in a light metal carrier attached frontally to the operator by webbing harness; 'Battle Batteries', junction box, throat microphone and receiver assemblies carried in the battery back pack with webbing braces; nine aerial rods in a pouch attached to the set carrier. Allowing for two batteries and phone assemblies, the complete station as carried weighed 24-33lb, very little different to the No 18 set, but the improvements in design, ease of operation, performance and distribution of weight made all the difference to the operator.

Although the No 46 set gave the operator so many improvements, the No 68 T which many

*Despite the most exhaustive research, the author has been unable to discover any rational description of how manpack radios were issued. There seems to be no set scale of issue at any level, and it appears they were more or less issued on demand depending on the specific requirements of an individual operation. One cannot therefore say that each company or battalion was supposed to have 'x' number of radios.

signallers remember as the tropicalised version of the No 18, was on active service well into the postwar years.

POWER SUPPLIES

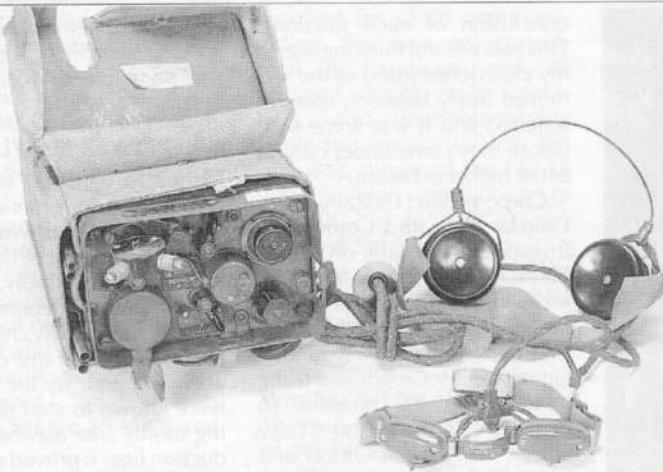
Manpack wireless sets were powered by dry batteries known as 'Battle Batteries' which were a constant source of headaches in the chain of supply. Rates of consumption depended on operational activity, never easy to forecast with any degree of accuracy and, as the batteries were known to start deteriorating shortly after leaving the production line, it proved difficult if not impossible to establish reserve stocks in forward areas. Shelf life was a QM's nightmare and constant efforts were made to provide a longer life battery or an alternative power source.

An improved 'Battle Battery' was available by 1943 after the Power Supply Unit No 5 had been produced as an alternative source in 1942 and proved unpopular. Described as follows on its REME Data Sheet, 'Replaces dry battery supplies to the Wireless Sets No 18, 38 and 68 under certain conditions', it was housed in a steel case, looked like a No 18 Set with a handle and weighed in at 36lb (16.3kg) — the same size and 1kg heavier than that set. It was not popular and seldom used and only the W.Set No 38 Working Instructions made any reference to its existence.

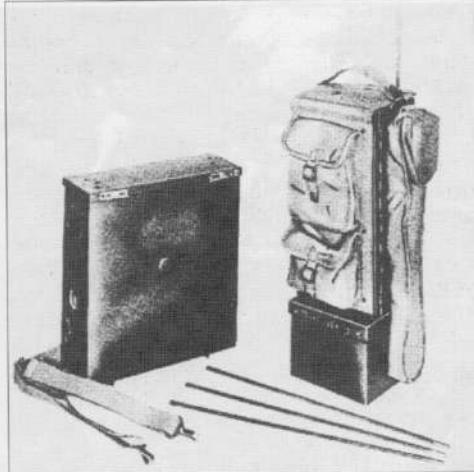
In retrospect it is hard to understand how so much time and effort produced such an equipment. It used a Vibrator Unit with a 6-volt accumulator which in turn had to be kept charged by a hand generator. Manpacks were designed for mobile use in forward areas and one has only to read the accounts of the stalwarts who carried and operated them under fire to realise what the average signaller must have thought when offered this extra load.

Mr C. Stanley offers a good example of the 'love-hate' relationship which existed between signaller and his No 18 Set. A Regular soldier from 1936 to 1945, he served with the 2nd Royal Fusiliers, was trained by regimental instructors in basic morse, semaphore, heliograph and lamps signalling, then in advanced morse at the Royal Signals Training Centre,

All that can be said with certainty was that the HQ Company in each battalion had six platoons, of which No 1 was the Signal Platoon comprising one officer and 33 other ranks, specially selected after basic infantry training as having the potential required to learn W/T, morse, Slides code and the ability and confidence to deal with senior ranks without 'going through channels'. A normal radio team consisted of two men.



W.Set No 46. This shows the set only, without its metal carrying case and webbing harness. The bare set is carried in an olive green webbing pouch. On the right, the throat microphone and Receiver Assembly No 5. (Royal Signals Museum.)



Photocopy of W.Set No 58 (Canadian) based on the Set No 18. The Battle Battery is fitted to the base of the set and the Vibrator Power Unit is in the case on the left. The aerial rods in the foreground would be carried in the canvas pouch on the side of the set.

Catterick, and served as a regimental signaller in France (no wireless, only landline) and later in North Africa, Italy and Greece.

'I carried an 18 Set on my back for many a mile. These sets had a very limited range, main communication between battalion HQ and company commanders. They were very cumbersome, heavy and uncomfortable. We also carried a spare battery, which weighed about 4lb. A hand-held mike was used until the throat mike was issued. The most distinguishing feature was the aerial, about four to five feet long, which gave us a very hot time, when the enemy located us (by the aerial). These sets were very unreliable.'

Mr S.D.S. Baldwin, MBE, TD, a former TA Major and now Barrister-at-Law, has not forgotten his early years with TA regiments in WWII and postwar. 'Struggling up Snowdon carrying the 18 Set plus two field telephones, a spool of cable and my rifle—proud of achieving 25 wpm at Morse and a last memory of the 18 Set in Palestine. I remember sending sitreps on the 18 Sets in the Judean Hills... also privileged to be in Greece during the civil war. I cannot remember when I uttered my last "Over and out".'

VERY FORWARD USERS

The regimental signallers have a strong claim to be, for want of a better description, 'The Unsung Heroes of the War'. Included with the regimental signaller of the infantry and Field Regiment Gunner signallers are the Royal Signals signallers who served with Special Forces. They had been

trained as Operator Signals given the rank of Signalman, a trade rating and trade pay and were originally destined to serve and operate equipment from brigade upwards or, as some might have it, backwards! When volunteering for Special Forces their minds were on a quite different plane — adventure, excitement, more personal discipline and in some cases, moral reasons. They gave little thought to the type of equipment they would use. So the Special Forces' signaller found himself, in the terms of equipment training, on a level with the regimental signaller, though many long serving signallers had with experience, achieved high standards right up the sharp end.

Two operators of 2 Cdo Brigade Signals shared similar action on the islands of the Dalmatian coast, and remember manpacking the No 22 Set in two loads (in signal documents, classed as three manpack loads of 30lb which normally worked brigade to division and required secondary batteries and charging equipment).

David Herring with a DCM from pre-Dunkirk '... found myself manpacking the 22 Set, from sea level to the top of the Dalmatian mountains and believe me it was hard work.' With all their personal equipment, batteries, charging set, spare battery, rifles and ammo, he and the man who shared the load were sometimes lucky to find a donkey, which when laden became 'difficult to see'. At Salerno Herring landed with a No 18 Set 'which worked well despite being located on a steep hillside. The No 38 also worked well as only short distances sep-

arated Brigade HQs and Commandos in the line. But a minus mark for the No 18, its bulk made camouflage difficult even in a static role when mortars seemed determined to sort us out.'

T.A. Wright, of the same unit and the same campaign, was wounded while lugging his No 18 Set on the top of Mount Ornito. Afterwards, he became an instructor at an Infantry Signal Training School, and recalls that 'Although I never experienced loss of aerials in action I remember other instructors claiming to have used field cable and even barbed wire as aerials, maybe in jest or just trying to "con". But perhaps it did work by a fluke at least once or twice.'

Denis Pointer was a Brigade Signals operator attached to 6 Commando in April 1945. Moving through the Essler Forest, Germany, approaching the River Aller, the Brigade commander ordered the Commando to clear the ground approach by a bayonet charge. 'I was at the rear of the charge with the CO who turned to me and said, "And you signaller". Why, I shall never understand as I was his link with Brigade HQ. Off I went, 18, or was it 68, set on my back, mike in one hand, Colt .45 in the other. Half way through the charge came a call from TAC HQ, literally only about 100 yards away in a hedge. I recognised the voice, a fellow signaller — I could see him with the Brigadier and his



SCR (Signal Corps Radio) 536 'Walkie Talkie' which only weighed 5lb and had a range of up to a mile. The operator is wearing a US issue waist belt, ammunition bandolier and equipment shoulder straps. The complete radio set, including batteries, is in the case.

staff in the hedgerow. My response was not strict procedure: "Just a minute, I'm in the middle of a bayonet charge". The moral of this story is that front line troops who expect close action should not be lumbered with heavy wireless sets or rucksacks. Hopefully, nearly 50 years later this lesson has been learned.

SCR536 and 300

The United States' entry into the war in December 1941 and their first Army presence in the UK came within six months. By November 1942, American and British units were fighting together in North Africa and were able to see, handle and assess each other's equipment and weapons. Signallers were quick to notice the difference in weight and ease of operation of two US Army Signal Corps Infantry Manpack Sets, the SCR 536 and the SCR 300. A number of these radios were 'transferred' from American to British hands. The SCR 536, in design intention, was today's mobile phone ahead of its time. It was described in its Technical Manual of May 1943 as '...designed for short range two-way conversation... a press-to-talk portable radio telephone... microphone and earphone are attached to the case in such a manner that the set resembles a hand telephone — weight including batteries 5.5lb.' However, only a very limited range was claimed on land — 100 feet to a mile — and its operational efficiency was suspect.

Captain Bridger of 45 Commando, RM, tells us that 'The only time I was involved with the "Walkie Talkie" was when the SCR 536 was chosen for Operation "Belle Isle" on the night of 27 January 1945 — a river crossing of the Maas, so only a short range was needed. Six SCR 536s were to be used in three pairs of identical frequency. For reasons unknown communications were non-existent but fortunately no harm was done as the operation misfired due to faulty intelligence.'

The SCR 300 was more dependable. A Signal War Diary of an exercise in 1945 records: 'Experiments carried out with SCR 300. Excellent results obtained. Communications to TAC, Main and Rear, SCR 300 worked perfectly throughout entire operation and its use is strongly recommended on a larger scale during future operations. Communication perfect over 27 miles.' In view of its success it was decided that the new postwar Wireless Set No 31 for the British Army should be

designed on the same lines.

The dear old No 18 Set and its offspring took all the competition in its stride and survived the war, and in 1948 the world was scoured for the No 68 T which gained battle honours in the Malayan Emergency, admitting to some help from its old friend from Burma, the ubiquitous mule. There are rumours of a No 18 Set Memorial Cairn having been erected by a wartime Signal School in Scotland — so far unconfirmed...

CONCLUSIONS

In retrospect it is easy to be critical of the boffins who seemed unable to come up with a lighter and less awkward manpack set, for general use. The steel case was always excused by the 'aluminium for aircraft' lobby, which functioned on a high level within the Ministry of Supply. On a much lower level, in the Highlands, the British Aluminium works was very proud of its Home Guard unit. Their Signal platoon liaised with the Signal Wing of the Special Training Centre at Lochailort a few miles away and between them, in 1941, produced a prototype lightweight case for the No 18 Set — the Home Guard were very fed up with lugging that set up and down Ben Nevis.

The case was made from scrap aluminium certified by BA at a high level as being true scrap unfit for aircraft production. It went up through channels with many recommendations but disappeared without trace. Nothing more was heard of it and in 1946 the set still weighed 34lb. Of course, there was much more to it than weight — power supply, waterproofing, etc — but the fact remains that the regimental signaller had, literally, a heavy burden to carry. They were, in the main, very proud of their crossed flags but never rated much mention in the many postwar accounts, just the odd mention of 'wireless' and, sad to say, mainly of its failures without any explanation thereof. Prior to 1939 communication between forward troops, company and battalion was very sketchy and the signaller did not see his first wireless set, the No 18, until 1941. This provided moderately reliable communications between the platoon and company.

When the Brigade Signal Section for the Special Service Brigade of the Commandos was formed in December 1940, with Captain (later Colonel) John Leahy as OC, there was no doubt about what should be its principal equipment — the No 18 Set. 'We had to have wireless



W.Set No 68 R fitted in the mobile position with rod aerial extended. The Signals Satchel on the man's right hip contains spare earphones. (IWM/B14354.)



The SCR 300 was a one-man load, the operator carrying the complete equipment. (IWM/B14351.)

and it had to be pack wireless, as operations in rough and roadless countries were to be expected in the Commando role. We trained accordingly, at Lochgoilhead, our base from February 1940 onwards.

'On one afternoon, taking this practice to its ultimate conclusion, it was decided that the whole Section should march — equipped for wireless communication — to the top of the 2,774-foot Ben Donich. Somehow over 40 No 18 Sets had been found so that every member of the Section could carry one and we set off, like a line of Tibetan porters, on an ascent with a gradient of 1 in 4. After two hours we arrived at the summit where previous climbers had established a small cairn, which those who came after were expected to maintain by the addition of more stones. On a common impulse, without a word being spoken (no-one having the breath for it), every man in the Section unslung his set and placed it on the cairn. The pile eventually rose to nearly six feet high. The hint was a fair one: if riflemen can pile arms before resting, why should not signalmen pile wireless sets? Sadly, a camera was not available. After an extended pause to regain our breath the sets were retrieved for the descent and appeared quite serviceable.' In due course the No 18 Set proved its worth on active service during the Commando raid on Vaagso. It was soon established as a communication necessity for Commandos and infantry in the forward zones of operations.

Colonel John Leahy contributes the last word. 'It was never an easy equipment to use but worked well enough for those who had the patience to train with and practice its use regularly. Some Army units never managed to make it work and discarded it but that was not the fault of the set.'

MI

Acknowledgements

My thanks are due to the Royal Corps of Signals Museum for photographs and information on many of the Manpack Sets mentioned in the article; the Editor of *Soldier* magazine for inclusion in his 'Searchline' of my Manpack project and to the many ex-Regimental Signallers who shared their memories; the General Secretary of the Commando Association for giving the Manpack project a paragraph in the Association Newsletter and to the members who responded so generously; the Director of the United States Army Signal Corps Museum for his personal attention to my request for information on the SCRs.

The 1992 Atlanta Show

FOR YEARS, the annual 'Atlanta Show', put on by the Atlanta Soldier Society, has been known as 'the fun show'. There is a good reason for this. Not only is the Atlanta Soldier Society filled with many very friendly, outgoing (and very talented) modellers, but they always seem to go out of their way to show the out-of-towners a good time. Many of the better modellers in the United States come to Atlanta each year, including **Chris Walther**, **Scott Eble**, **Jim Johnston**, **Mike Stelzel** and **Mike McCowan**. Atlanta is a beautiful and very historic city (just don't mention General Sherman!), and the Atlanta group puts together a first rate show for those who make the trip. The modellers attending this year's show on 14-15 February at the Ramada Inn in Dunwoody (suburban Atlanta) had good reason to be glad they did.

The show itself is a very pleasant two-day, Friday/Saturday affair, with the Friday proceeding at a more leisurely pace than the Saturday, when all of the 'working stiffs' from the Atlanta area appear. There is a genuine warmth that one immediately recognises in the Atlantans, and people like the frenetically enthusiastic **Bob Knee**, the always amusing and towering **Preston Russell** (a doctor known for carrying his figures to shows in boxes marked 'Human Blood'), and the natural kindness and hospitality of **John Roberts**, **Ron Wehrman** and **Dan Osier** that at once makes the visitor feel welcome. It's wonderful to see the Atlanta group once again in such capable and hospitable hands.

Atlanta's competition is a bit unusual by American standards. While it follows the basic principles of an open system, with varying numbers of golds, silvers and bronzes given out for excellence, there are some key differences. Atlanta also gives out 'Show Master' awards. The Show Master is given to two to four exhibitors every year for overall excellence in the show. When a modeller accumulates three of these honours over the years, he attains the title of Atlanta Grand Master. Those modellers winning Show Master awards receive them instead of medals.

Likewise, the Best of Show Winner also wins this award instead of a medal. This reduces the 'overkill' often seen at shows where one modeller makes repeated trips to the award stand. The competition for the Atlanta Master title has become rather heated.

Atlanta Masters compete thenceforth only against each other, with the outstanding Master's exhibit each year receiving the Atlanta Cup. In 1992, the Atlanta Cup went to **Mike McCowan**.

Although the size of the show is modest by Chicago and MFCA standards, a very good cross section of the country's better painters appeared, as well as some excellent painters from the Atlanta and Georgia area. Florida's **Scott Eble** and **Keith Kowalski** both appeared with two of the best exhibits at the show. Scott is becoming one of the most recognisable faces in the hobby, and the quality of his work has continued to improve by leaps and bounds. At Atlanta, his two World War II 120mm figures, particularly his SS Obersturmführer, which earned a gold medal, were beautifully painted and presented. Keith's work is fairly new to the US 'show circuit', yet already he is acquiring a reputation as a first class painter. His 100mm Confederate Cavalry Officer, and 75mm Chota Sahib 'General Poniatowski' were extremely well executed pieces, resulting in a silver medal.

Virginia's **Mike Stelzel** is a true regular at the Atlanta show, and this year he departed from his better known scratchbuilt 90mm figures to try his hand at 54mm conversions. His French Voltigeur officer was a real gem (gold medal), and he even threw in a Victorian 90mm Royal Artillery officer for good measure. **Phil Kessling**, another Virginian, unfortunately was unable to attend this year, but he sent along his LeCimier General Lannes figure which collected a silver medal.

Another 'out-of-towner' who has really been making a mark in Atlanta (and everywhere else) is **Chris Walther**. Chris had an excellent display of figures, including a scratchbuilt Scythian Warrior, and a bust of a Bengal Cavalry Subadar. For his efforts, Chris received the coveted honour of Atlanta Master (by collecting his third Show Master award) this year, capping a prolonged string of success at the Atlanta Show. Your correspondent displayed a group of American Civil War

figures out of competition.

Jim Johnston, another regular, also sent along a few pieces for the competition, and was rewarded with his first 'Show Master' award, for overall excellence. Perennial favourite **Mike McCowan**, also known as the 'King of the Phoenix Woman' brought along a dazzling display of Phoenix Follies figures, enough to make even the most hardened show veteran blush. Mike's airbrush technique produces some really remarkable effects, and seeing his efforts in person is a real treat.

Among the local modellers, the name **Bob Knee** continued to stand out. Bob put together another one of his 'mass displays' of painted kits and converted figures. Bob's painting techniques can also now be seen in a variety of the modellers emerging in the Atlanta group. He is regularly teaching a figure painting class, which has been a major factor in the rapid improvement in some of the painters in the society. **Kevin Golden**, a Knee protégé, entered a small group of very well painted pieces, including his MacBeth, which brought his first 'Show Master' award. **Al Safwat's** Napoleonic figure display was among the more impressive in the show — it's nice to see a painter both talented and prolific — and it earned him a gold medal. Although **Dan Osier** did not compete, his Conquistador was a beautiful example of subtle, yet realistic painting, his handling of the metal surfaces with ink-pens creating a singularly convincing effect. **Kurt Hollar's** 'Snake eye Dud' was a well executed diorama which earned a gold medal, and **Bob Hay** and **Mike Cusic** collaborated on the well done 'Sea Beggars' — a silver medal winner.

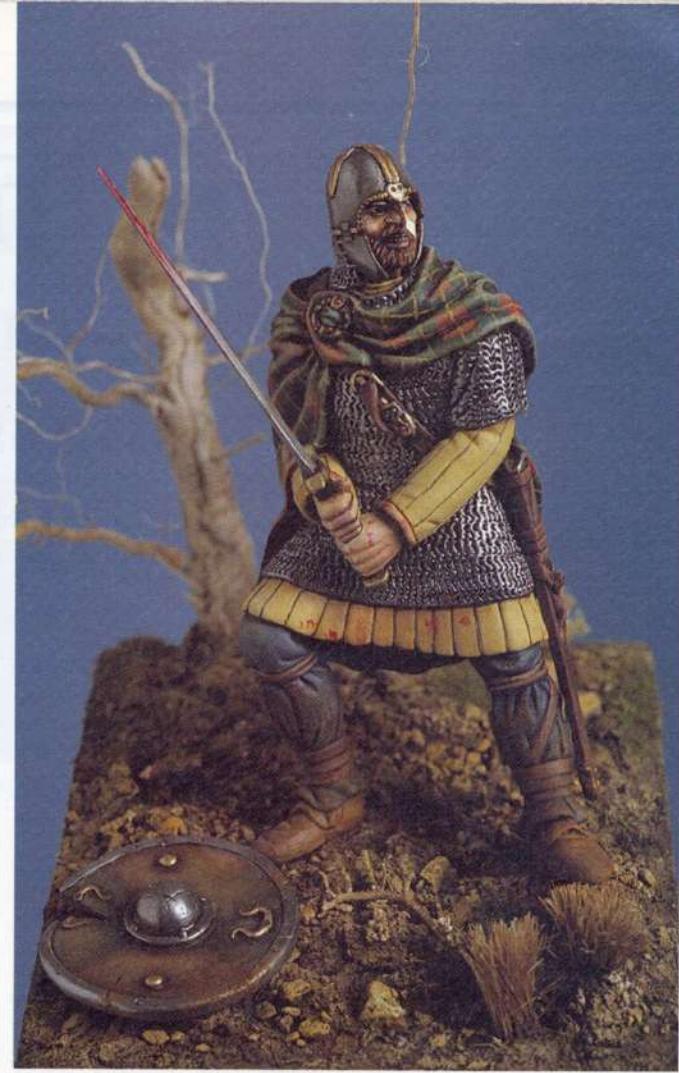
A special thank you must go to **Chuck Canfield**, whose outstanding photographs illustrate this article. Chuck is a professional photographer who has adapted his methods to the military miniature hobby — with admirable results. The Atlanta Soldier Society is lucky to have such a talented photographer in their midst!

All in all, the Atlanta Show was a well run and very enjoyable show, and appears to be one that shows grow in size and popularity in the years to come. While many modellers seem to be concentrating on travelling onto the biggest shows, the charms of those such as that put on by the Atlanta Soldier Society should not be overlooked.

Bill Horan



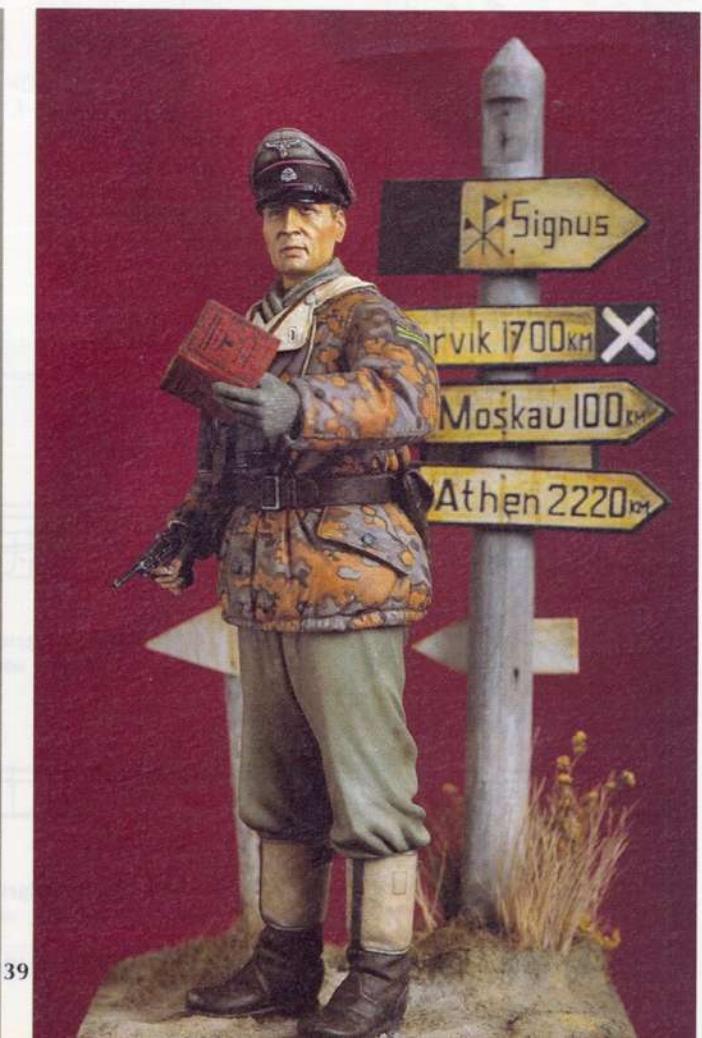
General Lannes by Phil Kessling (54mm stock).



MacBeth by Kevin Golden (70mm stock).

Mongol Commander by Jim Johnston (90mm stock).

SS Obersturmführer by Scott Eble (120mm conversion).





The Dreyse and Chassepot



INTRODUCTION

THE NEEDLE-RIFLES used in the Franco-German War of 1870-1 are, we believe, a sadly neglected area of military interest. The outcome of this short European war had as decisive an effect on military tactics as the repeating rifle did after the Russo-Turkish War. The former revealed the devastating effect of the single-shot breech-loader on close formations of soldiers and the latter the superiority of the repeater over the single-shot. The most significant aspect was that breech-loading weapons were carried by the two protagonists, since never before had opposing European armies been thus armed. Germany, despite opposition from its own conservative military leaders, proceeded to adopt a bolt action breech-loading rifle as early as 1841. Now, armed with their revolutionary needle-rifle, the German army could bring to bear rapid and accurate fire from any position.

The French during the 1850s had been experimenting with breech-loaders to arm their cavalry, but did not realise their true potential until 1866 when the Austrians (armed with muzzle loaders) were decisively defeated during the Seven Weeks' War in 1866. Hurriedly, the French adopted

GUY and LEONARD A-R-WEST

Illustrations by GUY A-R-WEST

a needle-rifle of their own after a design developed by Alphonse Chassepot which proved a very formidable weapon indeed, probably still not fully appreciated to this day. Both needle-rifle systems demonstrated, despite shortcomings, that they were very effective weapons.

Up to now no actual modern shooting data has been readily available. Being students of the needle-ignition system we are fortunate enough to own a variety of these weapons and have been able to shoot them with facsimiles of the original cartridges.

The needle-ignition principle

These two systems were called needle-rifles as their primary ignition was generated by a sprung needle housed within the bolt mechanism. With the Dreyse cartridge the primer was situated in the centre of the cartridge at the base of a special sabot which retained the bullet, and before reaching it the needle had first to penetrate a column of powder. On firing, this unique paper sabot engaged the rifling and imparted the spin onto the sub-calibre projectile until it reached the muzzle whereupon it was

immediately discarded. The Chassepot had its primer more conventionally situated in the cartridge base and therefore required a much shorter needle.

The use of combustible cartridges meant that both systems suffered the inherent problems of obturation (sealing of the propellant gas) and chamber fouling. The Dreyse used a special system of mating metal truncated cones, which was effective but not perfect, inevitably leaking a small amount of gas. In contrast the Chassepot utilised an india-rubber obturator located on the head of the bolt. Combustion of the cartridge and the ensuing pressure of gas, forced the sliding bolt head back thereby expanding the obturator and effectively sealing the chamber. The only real weakness was that the rubber obturator, which was subjected to intense heat, was prone to deterioration and in very cold weather leaked gas slightly. After sustained shooting fouling rapidly accumulated making insertion of the cartridge difficult, and the soldier had to remove most of this fouling by running his finger inside the chamber.

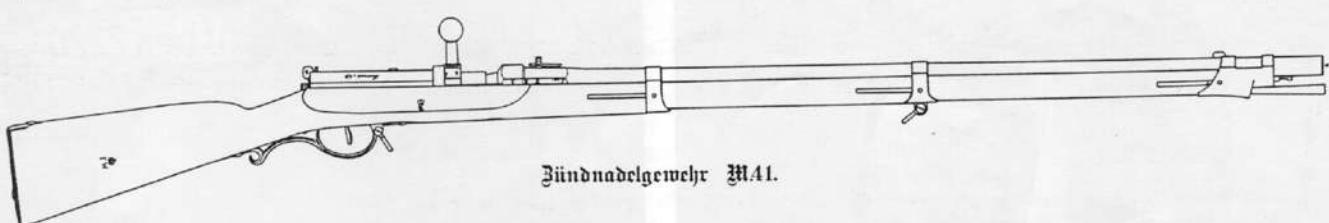
THE DREYSE SYSTEM

Nikolaus Dreyse, whose rifle was to become the 'wonder weapon' of that period, was initially inspired by the Swiss gunmaker Pauly whom he had worked for in Paris. Originally the gun was not designed as a breech-loader or, in fact, as a rifle, but evolved over a protracted period of development. As it was later made under state secrecy, the definitive needle-rifle was not known by the designer's name, but with the deceptive title of *Leichtes Perkussionsgewehr* (light percussion rifle) to conceal its mechanism. The rifle in its now familiar form was officially adopted in 1841 and issued to equip fusilier battalions in 1848. It was first used in anger against its own countrymen to help quell the general revolutionary movement that had seized Europe. This also provided the experience necessary to write a service manual. A Major Priem, who had assisted development, once declared to Crown Prince Frederick Wilhelm that if 60,000 men could be armed with this rifle and put under the leadership of a talented general, he could decide where the frontier of Prussia should be!

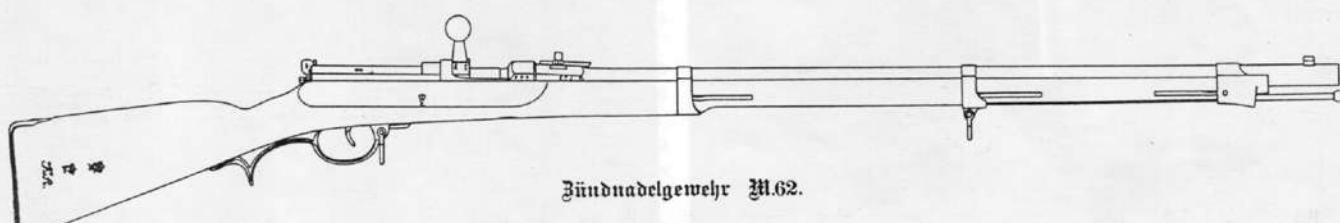
Dreyse's rifle, later known as the *zündnadelgewehr M.41*, was an influential factor in

Zündnadelgewehr M.41 and the improved M.62 below. The Dreyse system is the direct ancestor of all bolt action arms; its impact on the European battlefield influenced a new generation of

weapons. The Germans had an inferior rifle to the French, but made up for this handicap by superior training.



Zündnadelgewehr M.41.



Zündnadelgewehr M.62.

defeating both the Danes in 1864 and the Austrians in 1866. The humiliating defeat of the Austrians was mainly attributed to the fact that, although armed with one of the finest rifled muzzle-loaders, they had disregarded the breech-loader's potential and retained old Napoleonic tactics. Through the success of these two decisive wars the Germans realised the potential of their breech-loader and later used it to its maximum advantage against the *superior* Chassepot.

Each major branch of the German army, according to their function, carried their own particular model and by the Franco-German War the infantry were armed with both M.41 and M.62 *infanteriegewehre*; jägers carried the M.65 *jägerbüchse*, pioneers the M.69 *zündnadel-pioniergewehr*, and cavalry the *zündnadelkarabiner* M.57.

The M.41 initially used a cartridge with a ball projectile (*rundkugel*) which was soon abandoned in favour of a new pointed or picket-shaped bullet (*spitzkugel*) and was adopted in the new M.47 *zündnadelpatrone*. Later, with the introduction and widespread use of the *Minié*, ballistics of the M.47 were found to be comparatively inferior so a new smaller sub-calibre bullet (*langblei*) was introduced in 1855. This became the mainstay cartridge of all subsequent campaigns. With the introduction of the French *Mle. 1866* Chassepot and its impressive ballistic performance, the Germans developed an improved cartridge and modified the bolt head by adding a leather obturator. This conversion was known as the 'Beck' after its designer. The velocity gain was fairly impressive



From top to bottom, the M.41 (with its bolt open, the needle can just be seen), M.62 and M.60 with their respective bayonets.

(45m/s or 147.6fps), and the rear sights were revised and improved to accommodate the new ballistics. The M.41 was not modified and only a few improved Beck M.62 rifles were used in the 1870 war.

A shooting survey was conducted just before the outbreak of the 1870 war at the Spandau Shooting School to examine accuracy and penetration. The penetration given below is for the standard M.55 bullet through pine boards, 2.6mm thick.

Distance in *paces	100	300	400	500	600	1,100	1,200
Boards	4.5	4	3.4	3.5	3	1	1

*1 pace = 73.32cm (28.9in).

THE CHASSEPOT SYSTEM

The designer from whom the *Mle. 1866* rifle was to take its name was Alphonse-Antoine Chassepot, a craftsman in the French government arsenal at

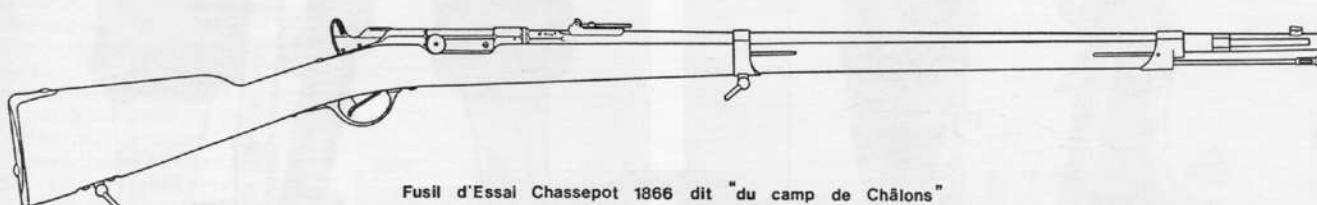
Châtellerault. He had been assisting with the development of the ill-fated capping breech-loading Arcelin. By 1858 he produced his own model (*1st Chassepot*). This was shortly followed by his modified and strengthened 1862 model (*2nd Chassepot*). Both used a rear locking bolt and rubber obturators. The paper cartridge was ignited by a blow from the hammer on a conventional percussion cap placed on the nipple. An improved needle-ignition 1862 model (*3rd*

August 1866 and designated the *Fusil Modèle 1866*. The definitive 11mm cartridge now carried its own ignition system.

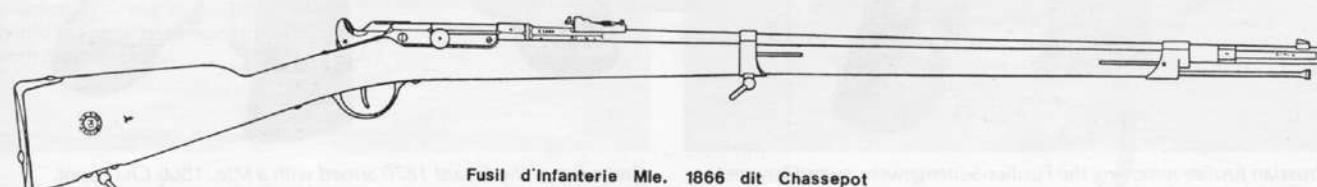
The new arm first saw action on 3 November 1867 at the battle of Mentana in Italy where the French were allied to the Pontifical army against the Garibaldians. One account claimed that the rapid volume of fire of the Chassepot was so impressive that it caused a brief pause in the fighting! The rifle was undoubtedly a very effective weapon even at long range, for a report of H.M. Consul General in Algiers, dated 24 February 1869, stated: 'In the course of each engagement arising from the recent disorders in South Algeria, the enemy losses have been very great, while the French losses quite insignificant. One attributes this fact to the Chassepot rifle, whose lethal effect appears to have

The Fusil D'Essai Chassepot 1866 dit 'du Camp de Châlons' (3rd Chassepot) and the *Fusil Mle. 1866* (4th Chassepot). The basic differences are that the latter has an improved trigger mechanism

(copied from Dreyse) and rear sight arrangement. It is an historical fact that Napoleon I strongly desired to arm his infantry with breech-loaders.



Fusil d'Essai Chassepot 1866 dit "du camp de Châlons"



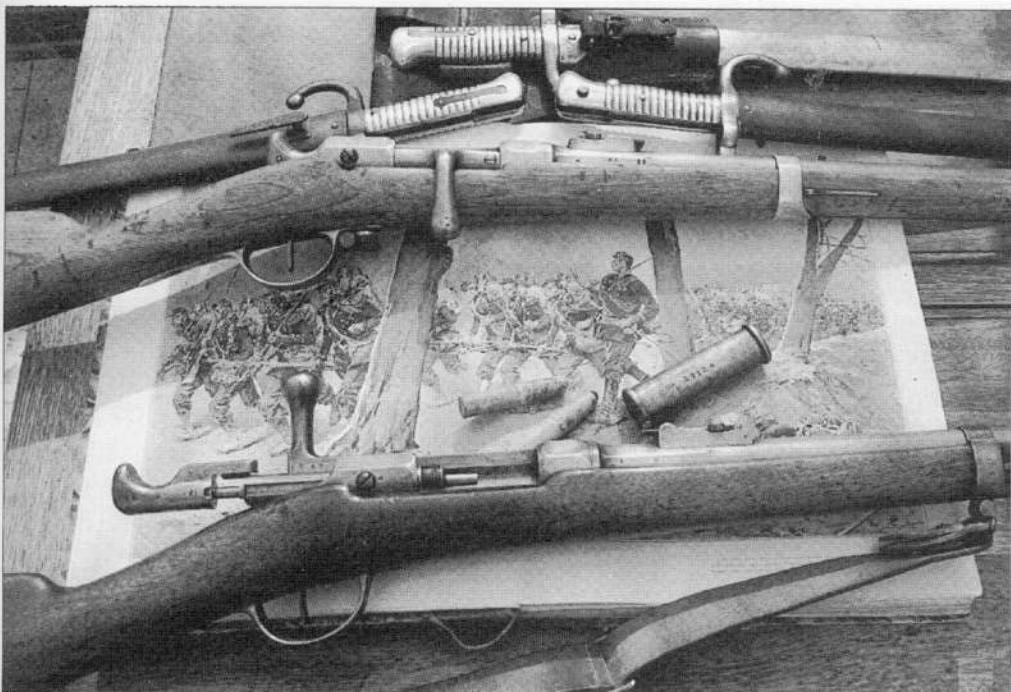
Fusil d'Infanterie Mle. 1866 dit Chassepot



A Prussian fusilier removing the Füsiliere Seitengewehr sword bayonet from his M.60 zündnadelgewehr.



Grenadier of the Guard 1870 armed with a Mle. 1866 Chassepot. His bearskin was eventually replaced by the Képi.



From top to bottom, the Mle. 1866 Carabine de Gendarmerie à Cheval and Fusil. This carbine was issued with a socket bayonet. The bayonet on the left was captured and re-issued to the Germans with a converted frog stud. Note the open bolt clearly showing the obturator.

surprised the French as much as the enemy. The Arabs attempted to charge the French troops, as they had done before, but the first discharge brought death into their ranks at 700 to 800 yards, and produced panic and immediate flight.'

A report given on 30 November 1869 by the Commission of Vincennes gives the penetration of the 1866 bullet through steel plate.

Distance in metres	0	50	120	160	250	400	600
Thickness pierced in mm	4	3,5	3	2,7	2,65	2,05	1,8

The maximum theoretical range was about 2,500m, but while the bullet could still inflict a wound at this distance, accuracy was nil; maximum killing range was about 1,700m. Up to 350m the rifle was a very effective weapon, with the dangerous beaten zone for infantry at this range of depth greater than 100m.

With the introduction of the Dreyse, there was a saying:

'300 Dreyse guns equal 900 Minié muzzle-loaders'. It was now said: '300 Chassepots equal 500 Dreyse guns'.

THE FRANCO-GERMAN WAR

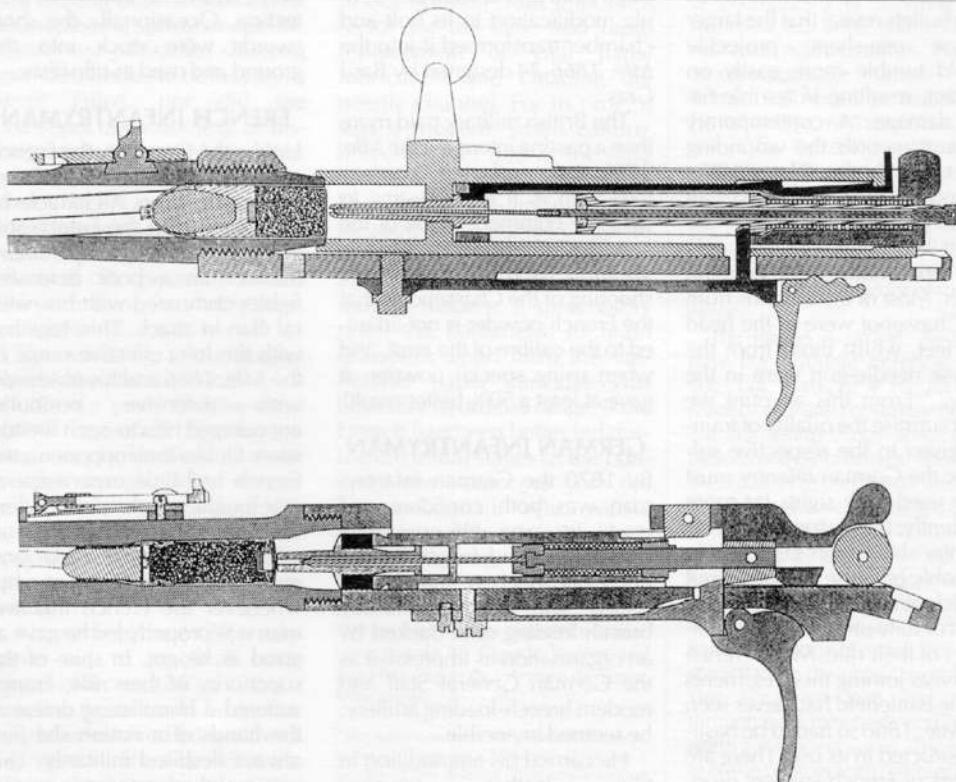
With the confrontation of two nations in 1870 both armed with breech-loading rifles, the effects were fairly devastating. The Germans were well aware that they were at a disadvantage as their latest standard model was in effect only an

updated M.41, shooting a relatively slow-moving large diameter bullet with a velocity of only 294ms (964.6fps) compared with the 390ms (1485.9fps) of the French 11mm bullet. This imbalance was to a degree lessened by the German artillery which comprised superbly handled modern steel breech-loading field guns to assist the infantry in overcoming the range disadvantage. The first serious clash of arms at Wörth demonstrated both the power of the Mle. 1866 and the superiority of the German artillery, while the broad use of the breech-loader had called in question the whole future of the cavalry arm as an offensive force.

Examining extracts from contemporary historical documents reveals that each time the Chassepot was undeniably ballistically superior to the Dreyse, having about twice the range. It was rightly much feared and respected by the German infantryman, so much so that some German units were issued with captured examples completely unaltered together with original ammunition. (Some were later modified by having their muzzles shortened and bolt handles turned down.)

The German needle-rifle had dominated the battlefields against the Danes and Austrians armed with rifled muzzle-loaders when used at its effective range against dense columns, but now against a superior

Sectioned view of the Dreyse and Chassepot with their actions cocked. The large chambers directly behind the cartridge were considered necessary for complete combustion. With the adoption of the Beck conversion for the Dreyse, the air-chamber (Luftkammer) was filled, sweeping away the necessity of such a device. The Chassepot cocking piece, which has to be pulled back before the bolt can be opened, houses a wheel to minimise friction during cocking. Note the standing block and two leaf sights of the Dreyse (graduations were in paces) and the more versatile Chassepot sight arrangement. Sight picture of the Dreyse is very fine and proved difficult to use in poor light. An important aspect of the Dreyse mechanism is that the needle could be quickly replaced with the bolt in situ.



weapon revealed its weakness — restricted range. For example, take the sheer devastation at St Privat and Gravelotte where the Mle. 1866 ruled the day and practically wiped out many Prussian formations long before they could engage. It must be added that the underestimated *Mitrailleuse* had some effect on the outcome. Incompetent tactics used by the German generals caused both these disasters, not the limitations of their needle-rifles.

At the battle of St Privat, the French infantryman, ideally situated behind their stone defences, engaged the Prussian Guard at the extreme range of 1,371m. One survivor said that it was: "...as if a whistling wind was blowing, as the hail of fire cut great swathes in the advancing battalions....". The official account says: 'Within moments, the 4th Grenadiers were torn to shreds, their ranks decimated and every field officer killed or wounded. A company of the 1st Grenadiers on their right, hurrying to their aid, was instantly shot down and two batteries of field guns rushing forward from St Ail, were wiped out even before they could unlimber.' There was no cover nor contour for the advancing Prussian Guard, who were unable to engage effectively above 700m, so the Chassepot continued its deadly work on the destruction of the 4th Brigade. This clearly demonstrated that field artillery could also be effectively engaged by small arms at ranges that once were thought to be safe.

A direct comparison between both bullets reveal that the larger Dreyse egg-shape projectile would tumble more easily on contact, resulting in terrible tissue damage. A contemporary account records the wounding effect of both rifles: "...the wounds were almost all Chassepot wounds, and are much less dangerous and ugly than those made by the Prussian bullet. Most of the wounds from the Chassepot were in the head and feet, whilst those from the Dreyse needle-gun were in the body..." From this account we must surmise the quality of training given to the respective soldiers: the German infantry must have used their sights far more efficiently; the reason the French infantry shot in this fashion was probably because they were not proficient with the sight arrangement or fully understood the ballistics of their rifle. Many French reservists joining their regiments on the battlefield had never seen the Mle. 1866 so had to be hastily instructed in its use. There are reports of French soldiers drop-

ping the clearing rod down the bore to remove a chambered cartridge which caused it to detonate and blow the rod back up the barrel, invariably with disastrous consequences.

The 11mm French cartridge was fragile and became unreliable if roughly handled, causing misfires. This was lessened if it was taken straight from its packet. If the cartridge was dropped onto a hard surface the case usually split. We conducted our own tests and a batch of inert cartridges were assembled for this purpose. Several were deliberately dropped on a hard surface and all split. A facsimile of the standard issue packet of nine cartridges was assembled then dropped resulting in several of the patched bullets being loosened from their cases. The M.55 was a far more robust cartridge, its limitation at longer ranges being due to its small powder capacity which was restricted by the volume of the sabot. This results in a 'rainbow' trajectory, making accurate range gauging essential. Occasionally the bullet and sabot failed to separate causing erratic shots, which were termed '*Brummer*' (blue-bottle) because of the audible buzzing sound.

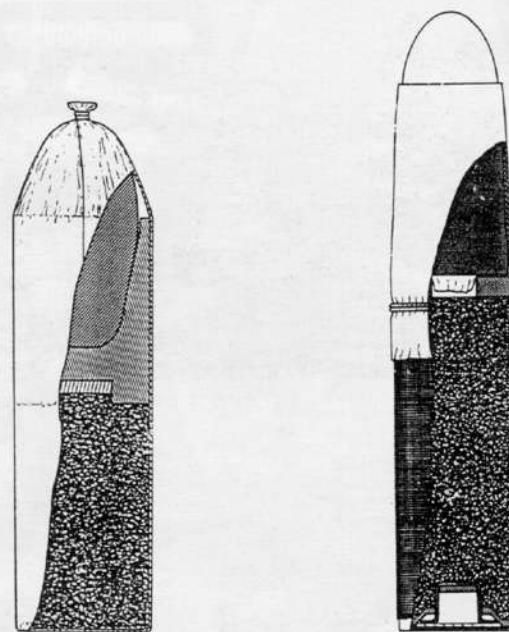
The Franco-German War was the swansong of the military combustible cartridge insofar as small-arms are concerned, just as the Crimea had been for the *Minie*, and the lessons learned revealed the disadvantages of the paper cartridge in modern warfare. Technology of metallic cartridges was applied to the Mle. 1866 and a relatively simple modification to its bolt and chamber transformed it into the Mle. 1866-74 designed by Basil Gras.

The British military paid more than a passing interest to the Mle. 1866 and conducted accuracy tests with it. It is interesting to note the comment made of the cartridge (*Cartouche Modèle 1866*) in 1870: 'The indifferent shooting of the Chassepot is that the French powder is not adapted to the calibre of the arm', and when using special powder, it gave at least a 50% better result!

GERMAN INFANTRYMAN

By 1870 the German infantryman was both confident and ready for war. He was well trained and had fought in two brief but decisive campaigns armed with a revolutionary breech-loading rifle. Backed by an organisation as impressive as the German General Staff and modern breech-loading artillery, he seemed invincible.

He carried his ammunition in two leather pouches



Cutaway view of both combustible cartridges: M.55 left and Modèle 1866 right; the layer of gauze was used to strengthen the case. Note that primary ignition of the M.55 is situated in the sabot base, and the needle has to penetrate the column of powder to ignite it. A ligature was made in the case above the bullet with the M.55 and below with the Modèle 1866 to secure the patched bullet to the case.

(*Patrontasche*) which were worn in front suspended by the waist belt, each containing 40 cartridges with a reserve of 40 in his backpack. The total weight of all the German cartridges was 4.6kg (10.14lb). Two spare needles and four leather 'patches' (washer for sealing the needle-guide) were carried. His full pack and equipment weighed nearly 45kg (99.25lb). The M.41 and M.62 rifles both used socket bayonets, and the infantryman also carried a *Faschinemesser* (short sword) for additional protection. Occasionally the short swords were stuck into the ground and used as rifle rests.

FRENCH INFANTRYMAN

Unlike the Germans, the French paid little attention to training and organisation. A characteristic attributed to the French soldier is that his fiery temperament makes him a poor defensive fighter compared with his natural élan in attack. This, together with the long effective range of the Mle. 1866 and his obsession with defensive positions, encouraged him to open fire too soon. Unlike their opponents the French had little experience of war fought with breech-loading weapons especially against an adversary as aggressive and enterprising as the Germans, but whenever the French infantryman was properly led he gave as good as he got. In spite of the superiority of their rifle, France suffered a humiliating defeat at the hands of a nation she had always despised militarily.

This was mainly due to poor organi-

sation: the French were outgeneraled, outflanked and outgunned by artillery.

The *Poilu*, line infantryman, carried a tool kit for dismantling the bolt and cleaning the rifle, two spare springs, two needles, and a rubber obturator which fitted into the central compartment and separate pocket on the front outer face of his main cartridge pouch (*giberne*). The pouch was worn centrally at the rear of the belt, each of its two large compartments containing two packets each of nine cartridges. The front right of the leather waist belt carried in addition a cartridge pocket with extra ammunition. A total of 90 cartridges (ten packets) was carried, which weighed about 2.86kg (6.3lb). The *Sabre Baionnette Modèle 1866 Série Z* carried on the left side of his belt was the accessory of the fusil.

MODERN COMPARISON AND ASSESSMENT

In the light of the historical information available, the faults of both weapons were mainly obturation and the needle-ignition itself. Some of this is distorted by both time and biased reports, so we considered it necessary to conduct empirical shooting and handling tests in which to vindicate their true potentials and provide a comparative up-to-date assessment.

With no useful information on hand loading readily available, mid-19th century combustible cartridge construction had to be researched from scratch. The ammunition was slowly devel-



There is no substitute for the real thing! At top, a zündnadelgewehr M.62 Dreyse and at bottom the Mle. 1866 Chassepot being put through their paces. The former is clumsy and shorter ranged but does not have such a 'kick', while the latter becomes unwieldy to aim when the sword bayonet is fixed.

oped and carefully tested, eventually revealing a unique technical knowledge of how they performed. The two rifles used throughout were the standard M.62 and Mle. 1866. Both rifles were also tested with their respective bayonets attached for handling comparisons and to discover the effect on ballistics.

The Mle. 1866 bolt is faster and easier to cock and manipulate, as deliberate timing of the shots revealed during manipulative testing without definite regards to accuracy. The sequence included removing a cartridge from an ammunition (front) pouch and chambering it; the Chassepot was timed at eight seconds and the Dreyse at nine and a half. Inserting a cartridge into the latter's chamber required a careful loading sequence as the distance between the cone and bolt head is shorter than the cartridge. The cocking piece is small and requires pressing down, making it difficult to use in cold weather. To efficiently operate the rifle a deliberate loading drill was used by the German soldier and an early document illustrates as many as twelve separate movements.

The Dreyse can easily be made safe by just de-cocking; the Chassepot, however, requires pulling back the cocking piece then raising the bolt handle approximately 45° whilst pulling the trigger and easing the cocking piece forward into a slot

milled at the rear of the bolt. Bolt removal from the Dreyse's action is simply achieved by pulling the trigger to its full extent. Field stripping does not require any tools and the needle is very easily replaced, even when the rifle is loaded. The Chassepot's bolt calls for two tools: a screwdriver to release it from the receiver and remove the obturator, and a special spanner both to dismantle it and replace a spring or needle. During our protracted shooting tests, the needles of both systems never failed, nor did the Chassepot obturator leak or disintegrate in hot or cold weather conditions. We can only conclude that the reasons the obturator did eventually disintegrate were due to the combined effects of oil, constant heat and lack of cleaning, inevitably causing brittleness.

The German rifle's greater weight absorbs the recoil which is more of a 'push' than the sharp kick of the French rifle. The former is undoubtedly a clumsy weapon though, being muzzle heavy and requiring far more training; the latter is almost the opposite, being modern in appearance, lighter and easy to use.

Accuracy of the M.62 is adequate out to practical battle ranges of around 250m in that a standing figure could be repeatedly hit when fired from a kneeling position. The Mle. 1866 has potential accuracy out to 500m

in the hands of a proficient shooter. After its qualities had been appreciated special Chassepot* were also seriously used during the 1870s in NRA target competitions.

To briefly sum up both rifles, we can say without doubt the Mle. 1866 distinctly holds the advantage in most respects except for quick removal and dismantling of the bolt, which in our opinion is an important factor for the ease and rapid replacement of vital parts, lubrication and cleaning the needle channel. For its time, it was a modern 'small calibre' breech-loader and in the right hands a most potent weapon. The Dreyse was an innovative weapon and complicated to manufacture but when pitted against an army equipped with muzzle-loaders, it undeniably ruled the battlefield. Its main drawback apart from the vulnerable paper cartridge was basically its limited range. If the French had been better led during the initial stages of the conflict, the outcome of the Franco-German War would have arguably taken a much different course.

MI

Acknowledgements

We would like to express our sincere thanks to Claude Bories and the Historique de l'Armée de Terre, Vincennes.

*The authors own an example of what appears to be an 'improved Chassepot' which has a smaller calibre, different rifling profile and has been deliberately lightened.

BOOK REVIEWS

Through The Zulu Country: Its Battlefields and People by Bertram Mitford with a new introduction by Ian Knight. Greenhill Books; ISBN 1-85367-116-9; 257pp; 19 plates; no index; £18.95.

Lionel Leventhal's Greenhill Books continue to maintain their reputation for top-quality reprints of classic military titles whose originals would cost a fortune from an antiquarian bookseller. This latest in their 'African Colonial Wars' series is a real prize, because Mitford of course visited and vividly described all the major battlefields of the Zulu Wars in the 1880s, recreating for readers down the ages the genuine feel of 'being there'. Now, with a new introduction from 'MI' regular Ian Knight which describes how best to visit the sites today, this fine book is once again available to all of us—and will itself probably become a collector's item in due course.

The Visual Dictionary of Military Uniforms edited by Louise Tucker, consultant editor Dr Richard Holmes. Dorling Kindersley; ISBN 0-86318-836-2; 64pp., col ill throughout; index; £8.99.

One occasionally comes across a book which is clearly intended for children but which nevertheless can be of decided value to older readers. One such is this Dorling Kindersley production in their 'Eyewitness Visual Dictionaries' series, large format (12" x 10") with full colour spreads throughout. In this case the contents are a mixture of photographs of surviving and reconstructed arms and uniforms with a few figure drawings. The historical coverage ranges from Roman legionaries to modern jet fighter aircrew, with special sections on—for example—headgear, epaulettes, medals, footwear and camouflage, to name a few. This makes it sound rather like a grab-bag, which in a sense it is, but it is certainly one which this reviewer is going to keep to hand for ready reference.

The reason is simple. All of us have our favourite historical periods, but if you're a regular 'MI' reader, you are constantly finding out fascinating things about other periods and other armies. This leads on occasion to frustration, because you might know everything there is to know about the uniforms and equipment of the 13th Foot and Mouth Brigade, but be totally lost at a reference to the *Catari* on the *Watagame-no-yoko-ita* of a Samurai warrior (bracket for personal flag on the upper backplate). This book will lead you easily through such minefields and is well worth the modest outlay. The quality of the photographs themselves is excellent.

RB

KNOWN TO THE Press and public as 'Fighting Mac' but to the Army, more simply, as 'Old Mac', he had been born 50 years before, the fifth son of a crofter and stonemason at Millbuie, a Ross-shire village in that part of Scotland known as the Black Isle. The croft was too poor to support yet another son so, after elementary education at the local Free Church school, he was put to work at the age of 14 in a draper's shop in Dingwall. A year later he was apprenticed to a tweed and tartan manufacturer in Inverness. In its streets he would often see Highlanders from the nearby barracks at Fort George, a more exciting spectacle than the bolts of cloth among which he spent his days. He joined the local Rifle Volunteer Corps but the limited soldiering it provided soon persuaded him to abandon his apprenticeship and, to the dismay of his mother, 'go for a soldier'. In 1870 he enlisted in the 92nd (Gordon) Highlanders.

After his recruit training at the depot, he joined his regiment in India. His soldierly qualities and attention to duty soon marked him for promotion and, by the time he received his baptism of fire in 1879, he was a Colour-Sergeant, the senior NCO of his company. The Second Afghan War had broken out in 1878 but the 92nd were not engaged until they were included in Sir Frederick Roberts' force for the re-occupation of Kabul, following the massacre of the British Resident and his escort.

On 28 September 1879, during fighting through a defile, Macdonald with 18 men of the 92nd and a detachment of the 3rd Sikhs under an Indian officer were sent to the rescue of a party which had been ambushed by tribesmen. The enemy were in strength and, as they began their charge, Macdonald took command of both parties. Waiting until the tribesmen were within close range, he then ordered fire to be opened, killing about 30 and wounding many more. As the enemy hesitated, Macdonald ordered a charge and drove them back over the hill. Witness to this little action had been Roberts himself who later wrote: 'The manner in which the Colour-Sergeant and the Native Officer handled their men gave me a high opinion of them both'.

Nine days later, at the Battle of Charasiah, Macdonald again attracted notice for his conduct

'Fighting Mac'

MICHAEL BARTHORP

Paintings by DOUGLAS ANDERSON

ON 25 MARCH 1903 a revolver bullet terminated the life of a lowly-born but high-ranking Scottish soldier, one of the most famous and popular figures of his age. His name was Hector Macdonald and he died, not on the outposts of Empire where he had spent most of his service, but in a small Paris hotel. So ended an extraordinary career of courage and distinction.



Major-General Sir Hector Macdonald, KCB, DSO, ADC, in full dress uniform of ADC to the King.

and leadership during an attack up a steep hill. After the earlier incident, a soldier had called out to him, 'We'll mak' ye an officer for this day's work, sergeant!', to which another responded, 'Aye, and a general too!' Macdonald was especially mentioned in despatches on 16 October, and after his performance in the battles around Kabul at the end of the year led to a recommendation by Roberts' Chief of Staff, the first soldier's words came true. On 7 January 1880 Colour-Sergeant Macdonald was commissioned 2nd Lieutenant in the 92nd Highlanders.

It is said that Roberts offered Macdonald the choice of the Victoria Cross or a commission. In the Army of the 1880s, commissioning from the ranks was rare indeed and the gap between the Officers' and Sergeants' Messes was fraught with social and financial diffi-

culties. These could be eased, if not fully overcome, when the commission was gazetted to another regiment. Most NCOs would probably have accepted the decoration; Macdonald opted for the commission, but only if it could be in the 92nd.

In the event his regiment responded generously: the sergeants gave him a dirk; the men of his company carried him shoulder high to the Officers' Mess, where each man saluted him; the officers, welcoming him to their number, presented him with a broadsword.

The war went on, as did the 92nd and its new officer, marching with Roberts to relieve Kandahar. Thereafter they returned to India and orders to leave for home. But a new emergency then broke out, with the Boers of the Transvaal, and the 92nd's troopship was diverted to Natal to strengthen

Sir George Colley's force which had suffered setbacks. On the morning of 27 February 1881, three companies of the 92nd found themselves as part of Colley's force on top of the dominating Majuba Hill, which they had ascended during the night, firing at this new enemy whom they could scarcely see skirmishing up the hill.

Macdonald with 20 men was posted on a bare knoll on the western flank. By the afternoon the defenders of Majuba were casualties, prisoners or in panic-stricken flight, with only Macdonald fighting on until all his men were killed or wounded. After a last struggle with his bare fists, he too was taken prisoner. He was later returned to the British lines complete with his presentation sword which the Boers gave back to him when they read its inscription.

After this fiasco he returned home and was stationed in Edinburgh for a while. By now the 92nd had amalgamated with the 75th to form two battalions of the Gordon Highlanders. In 1884 he joined the 1st Gordons in the River Column's fruitless attempt to rescue the besieged General Gordon in Khartoum. Thereafter he returned to Egypt to join, first, the British-officered Egyptian Gendarmerie, then the new Egyptian Army, recently reorganised by Sir Evelyn Wood and now training for the task of defending Egypt from the Mahdiists.

Macdonald may have appreciated that, in the social climate of the times, while it was one thing to be a ranker officer on active service, it was quite another in a peacetime garrison, particularly at home. There was also the matter of a possibly illegal contract of marriage he had exchanged in Edinburgh with a girl of just over 16 named Christina Duncan, who gave birth to a son the following year. (This was subsequently proved to be legal in Macdonald's absence but the couple never co-habited.) Whatever his reasons, Macdonald volunteered for the Egyptian service with its better promotion prospects and greater likelihood of active service. There he would remain for 14 years. By 1888 he was a 'bimbashi' (Major) — though only just a Captain in the British Army — and commanding the 11th (Sudanese) Battalion. From subaltern to battalion commander in eight years was rapid promotion in the '80s; to *Continued on page 50*

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have attained such advancement from private soldier was quite remarkable.

He was soon in action again against the Mahdiists, at Suakin (twice), Gemaizeh and Toski, for which he was awarded two Egyptian decorations and ultimately the DSO. In 1891 he was gazetted Major in the British Army, not in the Gordons but in the Royal Fusiliers, though he continued to serve with the Egyptian Army, now under Kitchener's command. Such was his reputation as a trainer and battlefield commander that, when Kitchener opened the re-conquest of the Sudan in 1896, the former NCO was appointed to command a brigade of three Sudanese battalions, who formed the most reliable and aggressive element of the Egyptian Army.

He led this brigade with great skill at Firket, the capture of Abu Hamed, and at the Atbara in 1898. But it was at Omdurman, Kitchener's final blow at the Mahdiists, that Macdonald achieved the fame that was to make his a household name. At a critical moment of the battle, as the Anglo-Egyptian Army advanced to pursue the apparently beaten enemy, a hitherto unseen host of nearly 20,000 Dervishes attacked towards Kitchener's rear. Only Macdonald's 3,000-strong brigade was near but facing the wrong way.

'Steady as a gladiator, with what to some of us looked like inevitable disaster staring him in the face, Macdonald fought his brigade for all it was worth. He moved quickly upon the best ground, formed up, wheeled about and stood to die or win'. Though under fire and attacked from two directions, the brigade kept its collective nerve and held its ground, plying the advancing masses with musketry carefully controlled by Macdonald. For half an hour the brigade kept up a continual fire until ammunition began to run low. Then, just as his Sudanese braced themselves to receive the charge on their bayonets, the 1st Lincolns arrived to reinforce Macdonald's line. By his calm resolve and firm handling of his often excitable Sudanese, Macdonald had saved the battle — and Kitchener's reputation.

Now a full Colonel in the British Army, he returned home to receive honours and acclaim from every level of society, particularly in his native Scotland. Among other engagements he

inspected the Gordons' depot where he had joined and which was now commanded by an officer who had been his company Captain when he was an NCO. He was made a CB, an ADC to the Queen, who received him at Windsor, and was granted the thanks of Parliament. He had become a national figure.

Promoted Major-General, he was appointed to command the Sirhind district of the Punjab, but at the end of 1899 a more active task, better suited to his talents, called him. The South African War had broken out and a series of disasters followed, among them the repulse of the Highland Brigade at Magersfontein with heavy loss, including its commander, Major-General Wauchope. There could be only one replacement. Macdonald arrived in January 1900 and immediately set about restoring the brigade's morale in preparation for Roberts' great advance on Pretoria. He led the brigade in the victory at Paardeberg but was painfully wounded in the ankle, to which was added periodic but severe gastric trouble. Nevertheless he continued to command the Highland Brigade until it was broken up later that year. In early 1901, in poor health and tired out from 16 years' almost continual active service in tropical climates, he returned home on leave.

In May he was received by King Edward VII, 25 years before, when the latter was touring India as Prince of Wales, a young NCO and former draper's assistant had been one of the guard mounted on his tent; now the same man left his King as Major-General Sir Hector Macdonald, KCB, DSO, an astonishing transformation for the period and one achieved entirely by merit.

To afford him a respite from military duties he was offered a tour of Australia and New Zealand, primarily to acknowledge those countries' contributions during the Boer War. His reputation, down-to-earth manner and unassuming character, ensured him the warmest welcomes wherever he went. It had been planned that in 1902 he would resume the command in India which he had left to go to South Africa. On arriving at Bombay, however, he found this had been changed and that he was to be GOC Ceylon.

It is curious that a general of proven ability, aged only 49, whose star seemed to be in the ascendant, should have been shunted off into a military sid-

ing at a time when major reforms to the British and Indian armies were in the offing to prepare them for European warfare. Admittedly he lacked general education, had no staff training or experience, and his command experience, though considerable, had been of a specialised nature. If Kitchener, now C-in-C India, felt jealousy rather than gratitude about Omdurman, he may not have wanted Macdonald under his command. There may have been elements in the upper echelons of the Army who, while content to overlook Macdonald's social background and unconventional career, when he was safely tucked away in the Egyptian Army, may have been less willing to do so now he had joined the higher ranks. Possibly inklings of his private life may have been more widely known or suspected than ever came out at the time. Whatever the cause, the military inactivity, and the small, enclosed world of the British community in Ceylon, were to be his undoing.

In February 1903 he returned hurriedly and unexpectedly to England. Following him was a report from the Governor of Ceylon that allegations of homosexual conduct — not in fact a criminal offence under the civil law of the colony — had been made against him. In London he saw Roberts, now Commander-in-Chief, who had known him since he was an NCO, and the King. As a result he decided to return to face a court-martial. He crossed to Paris, planning to catch the steamer at Marseilles. Hitherto nothing had reached the Press, but on 24 March a Reuter's report stated that he was returning to face 'very grave charges'. The following day the Paris edition of an American newspaper left its reader, including Macdonald who saw it in his hotel, in little doubt about the charges' nature. He went up to his room and shot himself.

There was much speculation and, in Scotland, uproar about his hurried, almost furtive burial in Edinburgh early one morning. It later transpired this had been at the wish of his widow, of whose existence hardly anyone was aware and with whom Macdonald had never lived. Nevertheless 30,000 mourners passed his grave within six hours. Later there were long-persisting rumours that he was not dead at all and the coffin was filled with stones; that he was the Russian general, Kuropatkin, fighting the Japanese in 1904; that he com-

Key to back cover illustrations

Douglas Anderson's reconstructions show Hector Macdonald as: (left) Colour-Sergeant, 92nd Highlanders, aged 26, in Afghanistan, 1879, based on 92nd photographs, paintings by Vereker Hamilton and R. Caton Woodville, and a drawing by Harry Payne. He wears a khaki-covered foreign service helmet, khaki drill frock, and 92nd kilt, sporran and hose. In the Afghan War the 92nd still had the obsolete equipment of pouch belt, waistbelt with expense pouch and bayonet frog. Over the left shoulder, besides his pouch belt, is the leather-covered Indian pattern water-bottle; over the right, a haversack and rolled greatcoat. He is armed with the Martini-Henry rifle and sword bayonet, as carried by sergeants. (See also MI/35, pp.8-18.) The painting on the right shows him with the rank of Colonel, aged 45, commanding 1st Brigade, Egyptian Division of the Anglo-Egyptian army at Omdurman, 1898, based on photographs. He wears a Wolseley helmet, then available only to officers, khaki drill service dress with Stohwasser gaiters; Egyptian rank badges. He is accoutred with Sam Browne belt, with semi-canvas supporting strap, and is armed with revolver and 1895 pattern infantry sword. His medal ribbons are: (top) DSO, Afghan War Medal, Kabul-Kandahar Star, Egypt Medal (1884-5, 1888), Khedive of Egypt's Star (1888); (bottom) Orders of the Medjidie (1888), Osmanieh (1891) and Khedive's Sudan Medal (1896).

manded a French division on the Somme; and, most famous of all, that he was the German commander on the Eastern Front, Field-Marshal von Mackensen. All such, and the many tributes to his career, were the manifestation of the widespread grief of his countrymen, to whom his dramatic rise to fame counted far more than his sudden, tragic fall. Today a 100-foot tower, erected through subscriptions from all over the world, overlooks his birthplace to commemorate the crofter's son who, to paraphrase Kipling, walked with Kings but never lost the common touch.

MI

1. Field-Marshal Lord Roberts VC, *Forty-One Years in India* (1900), p.394.

2. A.D. Greenhill Gardyne, *Life of a Regiment: History of the Gordon Highlanders* (1939), p.127.

3. See MI/35, p.8.

4. Bennet Burleigh, *The Times* correspondent, quoted John Montgomery, *Toll for the Brave* (1963), p.65.

Hector Macdonald



Colour-Sergeant,
Afghanistan, 1879

Colonel, Omdurman, 1898



Douglas N. Anderson